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# In the Supreme Court of the United States

OCTOBER TERM, 1939

No. 674

THE UNITED STATES OF AMERICA, PETITIONER

*v.*

APPALACHIAN ELECTRIC POWER COMPANY

*ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE FOURTH CIRCUIT*

## BRIEF FOR THE PETITIONER

### OPINIONS BELOW

The opinion of the United States District Court for the Western District of Virginia (R. 101–154) is reported in 23 F. Supp. 83. The opinions of the Circuit Court of Appeals (R. 2880–2922) are reported in 107 F. (2d) 769.

### JURISDICTION

The judgment of the Circuit Court of Appeals was entered on November 6, 1939 (R. 2880). The petition for a writ of certiorari was filed on January 26, 1940, and was granted on March 4, 1940 (R. 2944). The jurisdiction of this Court rests on Section 240 (a) of the Judicial Code, as amended by the Act of February 13, 1925.

## QUESTIONS PRESENTED

1. Whether respondent's project, a dam and hydro-electric plant constructed in New River, is in navigable waters of the United States, within the meaning of Section 9 of the Rivers and Harbors Act of 1899 and Section 3 (8) of the Federal Power Act.[1]

2. Whether respondent's project will obstruct the navigable capacity of waters of the United States within the meaning of Section 10 of the Rivers and Harbors Act of 1899, or affect the interests of interstate commerce within the meaning of Section 23 of the Federal Power Act.

3. Whether the licensing provisions of the Federal Power Act are constitutional, whether applied to a project located in navigable waters, or to a project which affects interstate commerce and is located in nonnavigable waters over which Congress has jurisdiction under the commerce clause.

## STATUTES INVOLVED

The pertinent provisions of the Rivers and Harbors Act of 1899, the Federal Water Power Act of 1920, as amended by, and the Federal Power Act of 1935 are printed in Appendix A (*infra*, pp. 145–177). The

[1] An additional question, presented for precautionary purposes only, is whether the amendments to the Federal Water Power Act of 1920 found in the Federal Power Act of 1935 are applicable to respondent's project. In the interests of simplicity we shall in this brief refer simply to the "Federal Power Act." (See *infra*, pp. 91–92.)

provisions of the Federal Water Power Act and the Federal Power Act are given in a comparative print in the appendix to the petition for a writ of certiorari (pp. 26–37). The major statutory provisions pertinent to this case may be summarized as follows:

Section 9 of the Rivers and Harbors Act of 1899 provides that no dam shall be built across a navigable river or other navigable water of the United States without the consent of Congress. Section 10 of that Act forbids the creation of any obstruction, not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States. Section 12 provides for removal of structures erected in violation of these provisions by court injunction in a suit instituted by the Attorney General.

Section 4 (e) of the Federal Power Act provides for the issuance of a license by the Federal Power Commission for the construction of projects on streams over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several states.[2] The li-

[2] Originally this section provided for the issuance of licenses for projects on "navigable waters of the United States," and Section 23 of the original Act prohibited the construction of projects without a license on nonnavigable waters over which Congress has jurisdiction under its authority to regulate commerce, if the person desiring to construct the project filed a declaration of intention, and the Commission found that the project would affect the interests of interstate or foreign commerce.

censes, under Section 6, are to be issued for not more than 50 years. They shall, under Section 10, include, *inter alia,* the following conditions: the project shall be the best adapted for navigation, power development, and other beneficial public uses; the project shall be maintained in good repair and operated in the interests of navigation; amortization reserves shall be maintained after the twentieth year of operation out of any excess return upon the actual investment, for the purpose of reducing the net investment; annual charges to meet administration expenses shall be paid the United States; excessive profits, unregulated by state authority, shall be expropriated to the United States. Section 10 (i) also provides for a so-called minor part license, in which the Commission may waive the conditions in a license for a minor part of a complete project or for projects of less than 100-horsepower capacity. Under Section 14, the United States, on two years' notice, may take over any project the license for which has expired, on condition that it pay the licensee its net investment in the property (not to exceed its fair value).

Section 23 (b) of the Act prohibits the construction, maintenance, or operation of an unlicensed project on any navigable waters of the United States. It also requires that any person desiring to construct a project on a nonnavigable stream, but one over which Congress has jurisdiction under its authority to regulate commerce with foreign

nations and among the several states, must[3] file a declaration of intention with the Commission. Then, if the Commission finds that the project would affect interests of interstate or foreign commerce, such person may not construct or operate the project without a license.

## STATEMENT

1. *New River.*—The New River has its source in North Carolina and flows north through Virginia and West Virginia. It joins the Gauley River in West Virginia to form the Kanawha River which flows into the Ohio River (R. 106–107).

The more significant points and distances[4] are the following: Shortly after the river crosses the North Carolina-Virginia state line, Wilson Creek enters the New River (at mile 252), thence New

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[3] Prior to the 1935 amendments, there was no express prohibition in the Act against the construction, maintenance or operation of a project on a nonnavigable stream without a license. The prohibition against the construction was contained in Section 10 of the Rivers and Harbors Act, and the licensing was provided in Section 4 of the Federal Water Power Act. Also, prior to the 1935 amendments, the filing of a declaration of intention for the construction of a project on a nonnavigable stream was discretionary.

[4] The points and distances are taken from the profile of New River introduced into evidence by petitioner as Exhibit 196 (I, 2).

Throughout this brief references to exhibits which are not reproduced in the printed record but which are found in the volumes submitted to the Court on the petition for a writ of certiorari will be referred to by the Roman number of the volume then submitted. The volume numbers refer to the one volume of charts (I) and to the four volumes of photographs (II–V).

River flows in an easterly direction for approximately 25 miles, and there turns in a northeasterly direction. It passes through Allisonia, Virginia (at mile 173.5), through Radford, Virginia (at mile 145), then again changes its course to a northwesterly direction and crosses the Virginia-West Virginia state line at Roundbottom Branch (at mile 87.5). It passes through Hinton, West Virginia (at mile 62.4), and after it becomes the Kanawha River at the mouth of the Gauley (at mile 0) it flows for 97 miles to its confluence with the Ohio River.[5]

The issue of navigability in this Court relates to the 111-mile stretch between Allisonia, Virginia (at mile 173.5) and Hinton, West Virginia (at mile 62.4). This stretch of the river may be divided into three sections. The first section is the 28-mile stretch from Allisonia, Virginia to Radford, Virginia, which had been improved by the United States between the years 1876 and 1883 by a channel 2 feet deep at low water and varying in width from 30 to 10 feet (R. 2402). The second section is the 56-mile stretch between Radford, Virginia (at mile 145) and Wiley's Shoals, Virginia (at mile 89.1), which has never been improved and is in its

[5] A map showing the course of New River and the principal locations involved in this case is inserted in the envelope attached to the back cover of this brief. The map is based upon Exs. 1 and 196 (I, 1, 2), and maps accompanying the reports of the Army Engineers (R. 2295) and the United States Geological Survey Quadrangle Sheets (I, 8 and Ex. 518, R. 2754).

natural condition. The third section is the 27-mile stretch between Wiley's Shoals, Virginia (at mile 89.1) and Hinton, West Virginia (at mile 62.4) which, like the first section, had been improved with a channel 2 feet deep at low water and 50 feet wide (R. 2402).

2. *Prior Proceedings.*—On June 26, 1925, the New River Development Company, respondent's predecessor, filed with the Commission a declaration of intention (Ex. 88, R. 2469) to construct a project on New River near Radford, Virginia. The project was to consist of a dam and power plant located (at mile 152) about one mile above Little River and about 7 miles above the town of Radford. The power plant was to have an installed capacity of 60,000 kilowatts or 80,000 horsepower, with a yearly output of 200,000,000 kilowatt hours. It was intended to utilize New River for respondent's reservoir for a distance of approximately 20 miles upstream, a stretch having a fall of 110 feet.

This declaration of intention was filed pursuant to Section 23 of the Federal Water Power Act of 1920. The Commission [6] instituted an investigation as to whether New River at the site of the project was navigable, and as to whether the project would affect the interests of interstate commerce. The Commission designated the United States Corps of Engineers of the War Department to make a report on the declaration. On August 20, 1925, the

[6] It then consisted of three *ex officio* cabinet officers: the Secretaries of War, Interior, and Agriculture.

Chief of Engineers submitted his report (Ex. 92, R. 2517) in which he concluded: (1) that New River was navigable water of the United States, and (2) that the project, if not properly regulated, could have an adverse effect on navigation during low-water stages in the Kanawha River. The Commission itself instituted an examination into the effect of power projects upon downstream navigable capacity on the Pit and Sacramento rivers in California (Ex. 103, 104; R. 2625–8).

The declarant then filed a memorandum with the Commission (Ex. 106, R. 2635) criticizing the report of the Chief of Engineers; it also filed affidavits of residents in the vicinity of Radford, Virginia, to the effect that New River was not navigable (Ex. 99, R. 2556–84), and requested (Ex. 106–B, R. 2635) that the matter be re-submitted to the Chief of Engineers. The Chief of Engineers then made another report, dated December 29, 1925 (Ex. 97, R. 2527). In this report the Chief of Engineers was of the opinion (1) that New River was not navigable, and (2) that navigation on the Kanawha would not be adversely affected by the proposed power development. On March 2, 1926, a hearing was held (R. 2584) before the entire Commission. Arguments were presented by counsel for the Declarant and for the State of Virginia.[7]

[7] Counsel for the Declarant stated at that hearing that he had engineering witnesses present and that he would like to introduce evidence, "if the Commission wants to hear the testimony," but he "imagined" that the Commission did not desire to hear any evidence (Ex. 100, R. 2604).

Before the Commission made any finding, the New River Development Company assigned its declaration of intention to the respondent, and the latter was substituted as the declarant in the proceeding (R. 2471). In order to expedite matters, the respondent, at the suggestion of the Commission's Executive Secretary, filed an application for a license (Ex. 90, R. 2471), with the understanding that the application might be withdrawn should it be determined that the project need not be licensed under the Federal Water Power Act. Both the declaration of intention and the application were made the subject of the hearing which took place at Radford, Virginia, on October 28, 1926 (R. 2604–24). In the course of or shortly after the hearing at Radford, a number of persons engaged in interstate commerce filed protests that their interests would be affected unless the project were regulated [8] (R. 2612–21). The respondent at this hearing was given an opportunity to be heard but, while filing a brief, declined to introduce evidence (R. 2619–24).

[8] These included: the Public Service Commission of West Virginia, which protested the grant of any license which did not provide for regulated stream flow (R. 2612); representatives of Kanawha River Shippers (Ex. 124, R. 2641); two railways, claiming interference with a bridge and a power plant (R. 2613–16); and a downstream hydroelectric plant (R. 2616–18).

The Commission on June 1, 1927 found:[9] (1) that New River at the site of the project was not navigable water of the United States within the meaning of Section 3 of the Federal Water Power Act, but (2) that the project would affect interests of interstate or foreign commerce under Section 23 of the Act (Ex. 91, R. 2494). On July 1, 1927, a standard form license was tendered to the respondent (R. 2650–63).

The respondent declined to accept the license. It questioned the constitutionality of the license provisions contained in the statute, and signified its willingness to accept a license containing only such conditions as would protect the navigability of the Kanawha River, but not the other provisions of the license or the conditions prescribed in the Act, especially those relating to rates, accounts, and recapture (R. 2500–06). The respondent requested that the Commission refer the question of its right to issue a minor part license to the Attorney General for an opinion (R. 2497). On July 21, 1930, the matter was submitted to the Attorney General (R. 2779). The question, as submitted, was based on the assumption that New River was neither navigated nor navigable in fact (Ex. 531, R. 2779). The Attorney General, on September 22,

[9] The findings were based upon the above engineers' reports, upon the public records referred to in these reports, and upon the transcript of the oral hearings; all of these were available to the respondent.

1930, concluded (36 Op. A. G. 355; R. 2885) that under Section 10 (i) of the Act the Commission might in its discretion waive the statutory conditions of the license and that it was not required to insert in a license any conditions which in its judgment were not necessary or appropriate to utilize the waters of New River in the protection or development of navigation on the Kanawha River. He assigned, as his reason for this interpretation of Section 10 (i) of the Act, that it was necessary "to avoid serious questions regarding the constitutionality of the Act" (R. 2885). The respondent then requested action on its application for a minor part license.

While this matter was pending before the Commission, Congress on June 23, 1930, passed an Act (46 Stat. 797) to reorganize the Federal Power Commission as an independent agency of the Government, consisting of five commissioners appointed by the President with the advice and consent of the Senate. The *ex officio* cabinet commission was, on December 22, 1930, supplanted by the independent Commission. It was for this reason that, on November 25, 1930, shortly prior to this reorganization, the cabinet Commission declined to take any action, favorable or adverse, on the respondent's application for a minor part license (R. 2506–07).

After establishment of the Commission as an independent agency, a further hearing, on the respondent's request, took place on February 16 and

17, 1931 (R. 2508). No evidence was introduced, but briefs were filed by various interested parties and arguments were heard, mainly on the question whether the Commission could grant a minor part license for respondent's project. On April 3, 1931, the Commission issued an opinion and order (Ex. 91, R. 2509), declaring that the evidence clearly sustained the finding that "the proposed construction would affect the interests of interstate and foreign commerce." The Commission, therefore, reaffirmed its former finding to that effect, and found it unnecessary to make any finding concerning the navigability of New River. The Commission denied the application for a minor part license and ordered that the respondent not proceed with the construction of the project without a standard form license.

On June 8, 1931, the respondent filed suit in the United States District Court for the Western District of Virginia against the Commissioners of the Federal Power Commission, to remove a cloud on the title of their lands cast by the Commission's order, and to enjoin the Commissioners from interfering with the construction of the project. The District Court dismissed the complaint on the merits, sustaining both the result reached by the Commission and the adequacy of its procedure. *Appalachian Electric Power Company* v. *Smith et al.*, 4 F. Supp. 6, 25. On appeal, the Circuit

Court of Appeals for the Fourth Circuit held that the bill should have been dismissed for want of jurisdiction over the persons of the defendants, 67 F. (2d) 451. This Court denied certiorari. 291 U. S. 674.

On October 12, 1932, the Commission passed a resolution in which it found that "New River from the mouth of Wilson Creek, Virginia, north, is navigable waters within the definition thereof, as set forth in Section 3 of the Federal Water Power Act." This action was taken, as shown by the recitals in the resolution, to remove any misapprehension caused by respondent's argument that the order of April 3, 1931, constituted a reaffirmation of the original view that New River was nonnavigable (Ex. 91, R. 2513–15).

3. *This Suit.*—The respondent, upon termination of its suit against the members of the Commission, proceeded with the construction of the dam. Petitioner brought this suit in the United States District Court for the Western District of Virginia to enjoin that construction without a license from the Federal Power Commission. The bill of complaint (R. 4–19, 19–38) may be characterized as consisting of two counts, the first charging violation of the Rivers and Harbors Act of 1899 and the second charging violation of the Federal Water Power Act of 1920.

The bill alleged that New River from Wilson Creek in Virginia to its mouth in West Virginia,

including the site of the project, was navigable water of the United States, and that construction of the project without express statutory authority was in violation of Section 9 of the Rivers and Harbors Act (R. 5). It also alleged that the project would impair the navigable capacity of navigable waters of the United States on the New, Kanawha, and Ohio Rivers, and that, therefore, the construction of the project without affirmative consent of Congress was in violation of Section 10 of the Rivers and Harbors Act (R. 11–12).

The bill further alleged that the project was located on navigable water of the United States, and that the construction without a license from the Commission was in violation of Section 4 (d) of the Federal Water Power Act (R. 13–15). It also charged that the Commission, acting upon respondent's declaration of intention, had found[10] that the project would affect interests of interstate or foreign commerce and that the construction without a

[10] The Government urged in the lower courts that the Commission's finding, if supported by substantial evidence, was conclusive. We submit this contention is correct. See *Shields* v. *Utah Idaho Central Railroad Co.*, 305 U. S. 177. We did not, however, seek certiorari from the contrary rule of a court below (R. 2910–11), because it seemed necessary to reduce the issues in this case to a reasonable compass and because of the peculiar features of the proceedings before the Commission in this particular case.

license was therefore in violation of Section 23 of the Federal Water Power Act.[11]

The respondent's answer, *inter alia*, denied that New River constituted navigable water of the United States (R. 39). It denied that either the construction or the operation of the project would impair the navigable capacity of any navigable water of the United States (R. 40). The answer alleged that the requirement of a standard form license for the project in question was in excess of the powers of Congress under the Commerce Clause, was violative of the Tenth Amendment, and amounted to a taking of respondent's property

[11] Shortly after this complaint was filed, Congress amended the Federal Water Power Act, which became known as the Federal Power Act. As has been indicated (*supra*, p. 3), there was no express prohibition in the Federal Water Power Act, prior to its amendment, against the construction, maintenance, and operation of a project on a navigable stream without a license. But Section 4 (d) authorized the Commission to issue licenses for such projects, otherwise prohibited by the Rivers and Harbors Act. After amendment, Section 23 (b) of the Federal Power Act expressly made it unlawful to construct, maintain, or operate an unlicensed project on navigable waters of the United States. In that section, as amended, the filing of a declaration of intention for the construction of projects on nonnavigable waters over which Congress has jurisdiction under its authority to regulate commerce became obligatory, rather than discretionary. Thus the acts of the respondent, which were alleged to be in violation of Sections 4 (d) and 23 of the Federal Water Power Act, were now in violation of Sections 4 (e) and 23 (b) of the Federal Power Act.

without due process of law in violation of the Fifth Amendment to the Constitution (R. 55).

At the conclusion of a lengthy trial, the District Court rendered an opinion (R. 101–154), in which he held for the respondent. The District Court also filed a series of rather general "findings of fact and conclusions of law," set out "in accordance with the views expressed in its written opinion rendered herein, and in addition to the matter therein stated" (R. 154–157).

So far as material to the issues presented by this petition, the District Court ruled: (a) New River at the site of respondent's project is not a navigable water of the United States (R. 110–126, 155–156). (b) The normal and probable operation of respondent's power plant will not impair the navigable capacity of the Kanawha River (R. 127–136, 156). (c) Section 23 of the Federal Power Act does not contemplate that the Commission should require licenses for projects located on nonnavigable waters, but merely that declarants could obtain a ruling as to the navigability of doubtful streams; and that, if the Section required a license for projects on nonnavigable streams, it would offer grave constitutional doubts (R. 142–151, 156–157).

The court issued a decree unqualifiedly dismissing the complaint (R. 157). In the opinion, however, the court stated that the United States, if and when the project in question should be so operated as to interfere with the navigable capacity of the

Kanawha or any other navigable water, could assert its right to compel a removal of the structure or such modification of its operation as might be necessary (R. 153).

From this decree, petitioner appealed to the Circuit Court of Appeals. That court, in an opinion delivered by Judge Chesnut, affirmed the decree of the District Court. Judge Parker dissented. The decision of the majority (Judge Parker dissenting on each point), so far as relevant here, may be summarized as follows: (a) "Navigable waters of the United States" are interstate streams used or capable of use in their natural condition for an actual, valuable, substantial, and permanent commerce (R. 2891–93). New River, except for the two intrastate stretches of 25 miles each above Hinton and Radford, is not navigable (R. 2893–2904). (b) If the project is in nonnavigable water, a license is required under Section 23 only if downstream navigable capacity would be impaired (R. 2916–18). Normal and reasonable operation of the project would not impair the navigable capacity of the Kanawha and Ohio Rivers, especially since any adverse effect from the influence of power waves caused by the operation would be rectified by existing or proposed dams (R. 2904–08). The effect upon the navigable capacity of New River between Glenlyn, Virginia, and Hinton, West Virginia, need not be considered, because navigation in this section had been abandoned and was never exten-

sive (R. 2908–09). The project would aid rather than interfere with the Government's flood-control program (R. 2909). (c) It is unnecessary to consider the doubtful (R. 2891–92, 2918–19) question of the power to impose the economic and regulatory conditions of Section 10, other than those relating to navigation, on projects located in navigable waters (R. 2920–21). Projects located in non-navigable streams can constitutionally be subjected only to conditions designed to protect navigation (R. 2921–22).

## SPECIFICATION OF ERRORS TO BE URGED

The court below erred:

1. In holding that New River, at the site of respondent's project and from Hinton, West Virginia, to Allisonia, Virginia, is not navigable waters of the United States.

2. In failing to hold that New River above Radford, Virginia, is navigable waters of the United States because navigation in that reach connected with interstate railroad transportation.

3. In failing to hold that New River between Hinton, West Virginia, and Glenlyn, Virginia, is navigable waters of the United States, and that respondent's project would affect the navigable capacity of this stretch.

4. In holding, because of respondent's probable method of operation and the rectifying effect of downstream dams, that respondent's project will not affect the navigable capacity of the Kanawha or Ohio River.

5. In holding that respondent's project will aid flood-control work while failing to hold that the project for that reason affects the interests of interstate commerce or that the extent of the aid depends upon the manner of operation.

6. In holding (or implying) that the license provisions of the Federal Water Power Act, so far as they go beyond the control or protection of navigation, are unconstitutional as applied to a project located in navigable waters of the United States.

7. In holding that these license provisions are unconstitutional as applied to a project which affects the interests of interstate commerce and navigation, although located in a stream which is not navigable waters of the United States.

8. In holding or assuming that the case must be considered without regard to the amendments to the Federal Water Power Act of 1920 found in the Federal Power Act of 1935.

9. In affirming the decree of the District Court.

## SUMMARY OF ARGUMENT

### I

The issue of navigability is one of law; particularly since, with minor exceptions, we have no quarrel with the description of the basic facts of the river made by the lower courts, the question of navigability is open to full examination here. *Leovy* v. *United States*, 177 U. S. 621, 628.

A. Section 3 (8) of the Federal Power Act contains a comprehensive definition of the particular

characteristics which show navigability; in this it codifies the decisions of this Court. It compels the conclusion that under the undisputed facts New River is navigable water of the United States.

B. We urge that an interstate stretch of 111 miles between Allisonia, Virginia, and Hinton, West Virginia, is navigable. The upper and lower sections of this stretch, above Allisonia and Radford, respectively, are very plainly navigable. This is the inferential finding of each of the courts below. Contemporaneous reports and oral testimony show the former existence of a very substantial navigation in these reaches, which were improved by the United States.

C. The only substantial issue, then, is navigability of the intervening 56-mile stretch from Radford to Wiley's Shoals, which remains in its natural condition.

1. The actual navigation on this stretch far exceeded the amount required under the decisions of this Court to show an appreciable commercial navigation. The engineers' reports from 1872 until 1899 speak of an existing navigation, which reached throughout the Allisonia-Hinton stretch. Army officials relying upon actual navigation, were consistently of the view that New River is navigable until the second report of Major General Taylor on December 29, 1925. The views of the Engineer Corps since that date cannot, of course, be accorded the weight of the contemporaneous reports of actual navigation. In any event, the record is re-

markably full with respect to eyewitness testimony as to navigation over the intervening 56-mile section; some 26 witnesses testified that they had seen commercial navigation within this reach. This testimony is not only uncontradicted but is corroborated by the majority of the respondent's witnesses.

The courts below minimized but did not deny this actual navigation. Instead, they introduced novel qualifications to the definition of navigable waters, each of which is contradicted by the decisions of this Court. It is unimportant that actual navigation has been abandoned, *Economy Light Co. v. United States,* 256 U. S. 113, 124, that it was difficult, *The Montello,* 20 Wall. 430, 443, or that it was irregular, *United States* v. *Utah,* 283 U. S. 64, 79, 82.

2. Even had there not been this actual navigation upon New River, it must yet be held navigable because of its suitability to navigation. *United States* v. *Utah,* 283 U. S. 64, 82. Certainly, even if the actual navigation were insufficient to prove navigability, it is incontestable evidence of suitability for navigation. Moreover, the physical characteristics of the Allisonia-Wiley's Shoals stretch are such that it must be found suitable for navigation. It is conceded that the waterflow is sufficient. The undisputed slope of this stretch is 4.4 feet per mile, and the uncontradicted evidence of velocity shows the stream to be well within the limits of navigability. The courts below placed their chief emphasis

upon the natural obstructions to navigation. This fact, however, cannot defeat the conclusion of navigability. *The Montello*, 20 Wall. 430, 442–443; *Economy Light Co. v. United States*, 256 U. S. 113, 122. In any event, the mile-by-mile survey upon which the court below relied shows equally formidable obstacles in the stretches the navigability of which seems beyond question. And both courts ignored the evidence, obtained by actual measurement, of the channels through each of the natural obstructions. If this be considered, it is evident that the river had a navigable channel through all of the shoals and that unloading or portage could not be necessary at more than one or two places.

D. Finally, the stretch of New River between Allisonia and Radford is navigable water of the United States because interstate commerce moved over this stretch of the river and then by way of rail transportation into other states. Both Section 3 (8) of the Federal Power Act and the regulatory powers of Congress reach to interstate transportation, whether only by water or by water and rail. *The Daniel Ball*, 10 Wall. 557.

II

A. Even if New River were nonnavigable, an unlicensed construction is forbidden under Section 10 of the Rivers and Harbors Act and under Section 23 of the Federal Power Act. By respondent's own evidence, its project will result

in "power waves" sent downstream. For 7½ hours at night and 34 hours over week ends, the waterflow will be shut off entirely; for several hours a day it will be two or three times the average flow of the stream.

This will admittedly impair the navigable capacity of the river between Hinton, West Virginia, and Glen Lyn, Virginia. Respondent contests the navigability of this stretch of the river but, as indicated above, there can be no serious doubt as to its navigability.

During low water periods, New River at the site of respondent's project contributes as much as 38% of the flow of the Ohio and as much as 70% of the flow of the Kanawha, which are admittedly navigable streams. Even on respondent's own evidence, the intermittent operation of its project would in times of low water impair the navigable capacity of these streams. The courts below avoided this conclusion by reliance upon the compensatory effect of downstream dams and upon the findings as to respondent's intended method of operation. But neither factor can serve to take respondent out of the regulatory powers exercised by Congress.

Even if there were no actual impairment of navigable capacity, a license would nevertheless be required under Section 23 of the Federal Power Act. That section requires a license for projects in non-

navigable waters which affect the interests of interstate commerce.

2. These interests are affected if the project has a beneficial as well as if it has an adverse affect upon navigable capacity. Such is the proper construction of Section 23, and any other rule would leave the regulatory powers over navigable capacity dependent upon the uncontrolled willingness of the respondent to continue its operation in a manner which would be beneficial.

3. Moreover, Section 23 requires that a project be licensed if it would affect the national interests of flood control. Flood control is intimately related to navigation and navigable capacity and, whatever the full scope of Section 23, is plainly included in the interests of interstate commerce of which the section speaks. The Ohio Valley flood-control program is chiefly dependent upon a system of tributary reservoirs; their efficacy inevitably depends upon a coordinated program. If respondent remains free to store or release the waters according to its interests in power development its reservoir may be an obstacle to the flood-control program and, certainly, its beneficial effects are markedly less than if it were part of a synchronized program for the valley as a whole.

## III

A. The constitutional issues raised by respondent and discussed by the courts below can properly be understood only against the constitutional back-

ground of the Federal Water Power Act of 1920. For two decades the executive and legislative branches of the Government had sought to find a way by which the water-power resources of the nation could be developed without injury to the public; any acceptable program would have to include provision for navigation, irrigation, flood control, and power—interests which if unregulated are contradictory rather than harmonious. The United States would, of course, have power itself to build the projects and to operate them in a manner to serve the largest good. *Ashwander* v. *Tennessee Valley Authority*, 297 U. S. 288; *United States* v. *Rio Grande Irrigation Co.*, 174 U. S. 690. But this alternative was rejected in favor of allowing private interests to develop the water power resources, subject to regulation by the Government. Certainly, the constitutional power to accomplish the necessary protection of the national resources cannot be less because Congress chose to act through private agents instead of directly.

B. (1) Congress has conceded power under the commerce clause to forbid an unlicensed construction of the project if it be located in navigable waters, and the *Rio Grande* case demonstrates an equal power if there be an impairment of downstream navigable capacity. There is an equal power, too, if the project beneficially affects downstream navigable capacity or has a substantial bearing upon the flood-control program. A beneficial

project, after abandonment or under different method of operation, may produce an adverse effect. The riparian owner, even on a nonnavigable stream, has no power against the commerce powers of Congress to *alter* its natural flow. Moreover, respondent as a distributor of electric energy in interstate commerce, is subject to the prohibitory powers of Congress and has no standing to complain of the license requirement, whatever might be the rights of one who operated only intrastate. Finally, even though the stream is nonnavigable, its waters are themselves instrumentalities of interstate commerce. Their volume and their flow are matters which affect downstream states as fully as Virginia and which are beyond the competence of any single state to control. They, are therefore, a movement in interstate commerce subject to the regulatory power of Congress.

(2) There can be no successful attack upon the terms of the license as beyond the commerce powers of Congress. Its terms are reasonable conditions to exact as the condition upon which Congress will relax its prohibition against construction of the project.

C. (1) The Federal Power Act constitutes no invasion of the rights of the states. The Tenth Amendment by its terms is inapplicable once the challenged provisions have been shown to be within the commerce powers of Congress. (2) But even if

such a limitation were to be placed upon the commerce clause, the development and conservation of the waters and the power resources of the country is a national rather than a local interest. Since the Government could admittedly condemn the project, there can be no invasion of states' rights because of the possibility of ultimate ownership of the project.

D. Nor is there any taking of respondent's property without just compensation. (1) Since there is power to prohibit altogether, there can be no complaint that respondent's power rights are taken by the license, which in any event simply regulates their use.

(2) The attack on the recapture clause cannot now be considered. Until end of the 50 year license period it is only speculative whether the United States will choose to take over the project and whether the net investment will at that time be less than the fair market value of the project. When the recapture provisions are sought to be exercised, respondent will have a wholly adequate remedy, either in the administrative hearing and judicial review provided by the Act (*Anniston Mfg. Co.* v. *Davis*, 301 U. S. 337) or in the Court of Claims (*Hurley* v. *Kincaid*, 285 U. S. 95); its fears of estoppel to urge its constitutional claims are unfounded (*Electric Bond Co.* v. *Commission*, 303 U. S. 419).

But even if the question may now be considered, the recapture provisions are valid. At the end of the license period, when there will be no Congressional permission to operate, the value of respondent's project will be its junk value, far less than the net investment allowed by the Act. *Roberts* v. *New York City*, 295 U. S. 264. In any event, the recapture provisions are simply the price which respondent must pay to obtain the privilege of construction and operation which otherwise is validly forbidden by Congress. *Fox River Co.* v. *Railroad Commission*, 274 U. S. 651. But even if there were no power to prohibit the project, the net investment allowed respondent by the Act is all that the Constitution can require. This argument is developed in the brief for the United States, *amicus curiae*, in *Driscoll* v. *Edison Co.*, 307 U. S. 104, No. 509, Oct. Term, 1938. It would seem to apply equally to a complaint of confiscation in recapture as to the complaint of year-by-year confiscation in the course of rate fixing.

## ARGUMENT

The basic issue in this case is whether the respondent must accept a standard form license from the Federal Power Commission for the construction and operation of its hydroelectric project on New River. The Federal Power Act requires such a license, and the Rivers and Harbors Act forbids construction of the project, if it is located on nav-

igable waters of the United States. So, too, a license is required if the project will obstruct the navigable capacity of waters of the United States or will affect the interests of interstate commerce. If any one of these conditions obtains, a license is required by the statutes and the remaining question is one of constitutionality.

## I

### NEW RIVER AT THE SITE OF RESPONDENT'S PROJECT IS NAVIGABLE WATER OF THE UNITED STATES

The navigability of New River at the site of respondent's project has been in sharp controversy throughout this litigation. The issue is primarily one of law: what constitutes a navigable stream under the statutes? Alternatively phrased, the questions involve conclusions of fact or mixed questions of law and fact. The important thing is that the ultimate finding of navigability is a question for this Court, and not a simple physical or historical fact, with which the appellate court has no proper concern. Here, if the legal principles be settled, there is little difficulty in their application to the facts of this case. With minor exceptions, we have no quarrel with the description of the basic facts of the river made by the lower courts. We differ as to the legal question of their weight and relevance to the issue of navigability. The controversy in this Court, then, is almost wholly one of law and is not influenced by the familiar rule that this Court

will require a showing of clear error before it reexamines questions of fact after concurrent findings by the lower courts.[1]

Thus, this Court has frequently considered the question of navigability by way of reexamination of the conclusions of the triers of fact. Where the issue relates to the basic or evidentiary facts, it is true, concurrent findings of navigability will not be disturbed except on clear error. *Brewer Oil Co.* v. *United States*, 260 U. S. 77, 86. But where the general conclusion of navigability is the object of attack, neither a jury verdict nor concurrent findings preclude an independent reexamination. *Leovy* v. *United States*, 177 U. S. 621, 628; *The Montello*, 20 Wall. 430, 442; compare *Arizona* v. *California*, 283 U. S. 423, 452.

We shall first discuss the statutory definition of navigable waters of the United States. Against this background we shall show the specific content given each of the criteria of navigability by the decisions of this Court and the application of that criterion to the facts of this case.

### A. THE DEFINITION OF NAVIGABLE WATERS OF THE UNITED STATES

The problem of defining the characteristics which make a river navigable water of the United States is easier in this case than in any which has

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[1] *United States* v. *O'Donnell*, 303 U. S. 501, 508; *Texas & N. O. R. Co.* v. *Railway Clerks*, 281 U. S. 548, 558.

hitherto come before the Court. This is because Congress has itself supplied a quite precise enumeration of the relevant factors. Section 3 (8) of the Federal Power Act, *infra*, p. 146, provides:

> "navigable waters" means those parts of streams or other bodies of water over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States, and which either in their natural or improved condition notwithstanding interruptions between the navigable parts of such streams or waters by falls, shallows, or rapids compelling land carriage, are used or suitable for use for the transportation of persons or property in interstate or foreign commerce, including therein all such interrupting falls, shallows, or rapids, together with such other parts of streams as shall have been authorized by Congress for improvement by the United States or shall have been recommended to Congress for such improvement after investigation under its authority;

This definition was largely ignored by the lower courts.[2] But it is the necessary point of departure for any discussion of navigability under the Fed-

[2] The District Court in discussing the law of navigability (R. 122–126) wholly disregarded Section 3 (8); the Circuit Court of Appeals (XI, 34) gave the section only cursory attention, and that during its discussion of "the effect of the Federal Power Act on the case" rather than in its discussion of navigability as such (XI, 34).

eral Power Act, whether viewed as a codification of the decisions of this Court,[3] as a Congressional synthesis and weighting of the factors relevant to navigability, or as an independent definition of the powers Congress considered granted it by the commerce clause.

The definition in Section 3 (8) repays close attention. The first clause, defining navigable waters as "those parts of streams * * * over which Congress has jurisdiction under its authority to regulate commerce * * * among the several States," shows the wide extent to which Congress intended the Federal Power Act to reach. The succeeding clauses are an enumeration of the specific circumstances which Congress determined to be sufficient to support its power.

The basic foundation of the federal jurisdiction is that the stream be "used[4] or suitable for use[5] for the transportation of persons or property in interstate or foreign commerce". If the stream has in fact been used for navigation of a consequential

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[3] In discussing the specific clauses of the statutory definition, the decisions of this Court which adopt the same criteria are placed in the margin. A more detailed discussion of the decisions is found in the application of the statutory standard to the facts of this case.

[4] The use may be past as well as present, *Arizona* v. *California*, 283 U. S. 423, 453–454; *Economy Light Co.* v. *United States*, 256 U. S. 113, 123, and need not be a large or commercially important use, *United States* v. *Utah*, 283 U. S. 64, 79, 89; *Economy Light Co.* v. *United States*, *supra*.

[5] *United States* v. *Utah*, 283 U. S. 64, 82.

character, it follows without more that the river is navigable; and, if the navigation was the transportation of persons or property in interstate or foreign commerce, that the river is navigable water of the United States.

Only if the river has not in fact been navigated to any substantial degree do the other facets of the definition become material. If the question is whether the stream is suitable for navigation, Section 3 (8) in terms puts aside a number of considerations which might otherwise be urged to defeat a finding of navigability. The navigable capacity of streams is to be determined "either in their natural or improved condition."[6] A finding of navigability is not defeated because of "interruptions between the navigable parts of such streams or waters by falls, shallows, or rapids compelling land carriage".[7] Finally, streams which otherwise might not be navigable under these standards are navigable, for the purposes of the Federal Power Act, if they "have been authorized by Congress for improvement by the United States or shall have been recommended to Congress for such improvement after investigation under its authority."[8]

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[6] *Ashwander* v. *Tennessee Valley Authority*, 297 U. S. 288, 328; cf. *Wisconsin* v. *Duluth*, 96 U. S. 379.

[7] *The Montello*, 20 Wall. 430, 442–443; *United States* v. *Utah*, 283 U. S. 64, 86; *Economy Light Co.* v. *United States*, 256 U. S. 113, 122.

[8] See *Ashwander* v. *Tennessee Valley Authority*, 297 U. S. 288, 328, 329–330.

Even if this statutory definition went somewhat beyond the boundaries indicated in the decisions, it would yet be well within the power of Congress to fix the precise boundaries of its commerce clause jurisdiction which is to be exercised in this Act. Navigable streams are instrumentalities or avenues of interstate commerce; it would seem evident that Congress has power to define the character of the streams which require federal control, and thus to implement its constitutional grant of power by appropriate definition. *Everard's Brewery* v. *Day*, 265 U. S. 545, 560; cf. *Purity Extract Co.* v. *Lynch*, 226 U. S. 192; *Ruppert* v. *Caffey*, 251 U. S. 264. Even if the definition went somewhat beyond interstate commerce itself, it could hardly be denied that the waters described in Section 3 (8) have an existing or potential effect upon interstate commerce; their regulation therefore may be sustained as a control of matters which otherwise would offer a substantial threat to interstate commerce. *Shreveport Rate Cases*, 234 U. S. 342; *Wisconsin Railroad Commission* v. *Chicago, B. & Q. R. R. Co.*, 257 U. S. 563; *Labor Board* v. *Jones & Laughlin*, 301 U. S. 1, 37–38. Under any view, the question is not the accuracy of the definition but its application in this case. But, as we have suggested and as the detailed discussion of the cases will show, Section 3 (8) is in truth simply a crystallization or codification of the criteria which define navigable waters of

the United States as they have already been formulated by the decisions of this Court.

### B. THE ALLISONIA-RADFORD AND WILEY'S SHOALS-HINTON STRETCHES

We do not urge that New River in its entirety is navigable, and confine our argument to the 111-mile stretch of the river between Allisonia, Virginia (at mile 173.5) and Hinton, West Virginia (at mile 62.4). If this interstate stretch of the river is navigable, respondent's project (at mile 152) is constructed in navigable waters of the United States.

The 111-mile stretch can, in turn, be divided into three sections: (1) a 28-mile section from Allisonia to Radford (at mile 145); (2) a 56-mile section from Radford to Wiley's Shoals, Virginia (at mile 89.1); and (3) a 27-mile section from Wiley's Shoals to Hinton. This division is indicated because we feel there can be no real issue as to the navigability of the upper and lower sections, above Radford and Hinton, respectively, and that the only serious issue as to navigability relates to the intervening 56-mile section between Radford and Wiley's Shoals.

Neither court below denied that the upper and lower sections of this stretch of the river were navigable; although they did not in terms hold them navigable, this is the clear inference of their discussion (R. 114, 115, 126; 2900–04). The Dis-

trict Court disposed of the question of navigability of the river as a whole by stating that the substantial commerce was confined to these two reaches.[9] The majority of the court below adopted the same approach, and found nonnavigability because of its view of the evidence relating to the intervening 56-mile stretch (R. 2900–04). Thus, it found that the physical characteristics of this stretch differed from those above Hinton and Radford (R. 2900–01), that the bulk of the commercial traffic was

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[9] It said (R. 114, 115):

"* * * The evidence indicates that the use of these boats was local, by which it is meant that they were not used in continuous trips throughout the course of the river but were used on separated stretches of the river where conditions made their use permissible and desirable. The range of their movement was determined by the extent of the pools and the absence of steep shoals in that particular section of the river. For example, from Hinton upward for 23 or 24 miles the river has the least gradient in its course, about 4 feet per mile, with considerable pool water and few precipitous shoals. The same conditions obtain to a more or less extent on the section of the river for 25 or 30 miles above Radford. It was in these separated stretches of the river that practically all of the bateaux navigation took place and only on them that there was any appreciable trade or commerce by boat. * * *

* * * * *

"* * * it is clear, I think, that in each instance the traffic was purely intrastate. It occurred in two widely separated stretches of the river, one over a distance of 25 miles or more entirely in Virginia, and the other over approximately the same distance in West Virginia; and between the two was a stretch of about 60 miles over which there was no appreciable commercial traffic, and little of any sort."

confined to these stretches (R. 2900–03), and that the Government had not improved the intervening reach (R. 2902–04). Judge Parker said that the two stretches "are unquestionably navigable and were so found by the court below" (R. 2925–26).

The Annual Report of the Chief of Engineers for 1883 showed that 17 keelboats[10] were operating in the stretch above Hinton and 8 keelboats and one small steamer in the stretch above Radford (R. 2397–2400). In the preceding year, the report mentions, the product of 9 sawmills above Hinton was shipped by keelboat,[11] as well as "the most of the tobacco, grain, &c., from that part of Mercer County" (R. 2399). Above Radford, some 1,156 tons of pig iron alone were shipped by keelboat (R. 2399). In the same year, of the 12,532 tons of freight sent from or received at the Cheaspeake & Ohio Railway at Hinton, 9,953 tons was river traffic (R. 2400). The testimony of some 36 witnesses showed commercial traffic in the stretch above Hinton, and that of 27 witnesses showed it in the stretch above Radford.[12] The subsequent diminution of traffic on these stretches is to be explained by the

[10] Keelboats are 50 to 70 feet long with a width of 6 to 8 feet and a draft of about 2 feet, having a carrying capacity of 2 to 3 up to 10 to 12 tons (R. 113–114).

[11] This included 2,000,000 feet of lumber, 1,800,000 oil barrels, 100,000 pipe staves, and 40 carloads of walnut and locust (R. 2399).

[12] Their testimony is tabulated, with record references, in Appendix B, *infra*, p. 178, and is shown in graphic form on the inset opposite p. 48, *infra*.

construction of railroads [13] (R. 2407, 2425–26, 2428–29, 2431).

New River between 1877 and 1882 was improved under Congressional appropriations, totaling $112,000, in three stretches,[14] two of which are in the 111-mile stretch now in issue (R. 113). The river was improved for 26½ miles above Hinton, to Wiley's Shoals, to provide a channel 50 to 75 feet wide and 2 feet deep at low water and for 29¼ miles above Radford to provide a channel 10 to 30 feet wide and 2 feet deep at low water (R. 2402).

It seems, therefore, plain beyond dispute that the 28-mile stretch from Allisonia to Radford and the 27-mile stretch from Wiley's Shoals to Hinton are navigable. The succeeding section of this brief will discuss the intervening 56-mile stretch from Radford to Wiley's Shoals. If, as we contend, this stretch also is navigable, the site of respondent's project is in navigable waters of the United States.

### C. THE RADFORD-WILEY'S SHOALS STRETCH

The District Court held that respondent's project was not located in navigable waters of the United States because the 56-mile stretch of New

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[13] Thus, in the Glen Lyn-Hinton stretch, there is no paralleling railroad (I, 6) and as late as 1912 there were said to be 10 or 12 keelboats (R. 2423–24).

[14] It is important to note that the stated futility of the improvement related to the third stretch, above the Radford-Allisonia stretch and reaching upstream from Austinville (at mile 100) rather than to any part of the 111-mile stretch here in issue (see, *e. g.*, R. 2757–59).

River between Radford (at mile 145) and Wiley's Shoals at mile 89.1) was nonnavigable (R. 111–126). The majority of the court below agreed (R. 2892–2904), with Judge Parker dissenting (R. 2925–36). We submit that this stretch of the river is plainly navigable, whether viewed in the light of the actual navigation which took place or in the light of its physical characteristics and suitability for navigation. This argument, it will be observed, does not contradict any concurrent finding of fact made by the courts below [15] but simply seeks to give those facts their proper emphasis, to establish their legal relevance, in the light of the settled principles defining navigable waters.

*1. Actual Navigation*

No other single factor can be so nearly conclusive in demonstrating navigability.[16] If there has in fact been actual navigation of appreciable extent, it is impossible to argue that the stream is nonnavigable. The definition in Section 3 (8) of the Federal Power Act, accordingly, declares that navigable waters are those which "are used * * * for the transportation of persons or property".

[15] In the few places where we take issue with a statement of fact, as opposed to the legal weight ascribed to it, by either court below, the statement is not only contradicted by the indisputable facts of record but also is not concurred in by the other court.

[16] *Non constat*, of course, that the absence of navigation is conclusive of nonnavigability, since its absence may be explained on a number of other grounds.

And the decisions of this Court express the same incontestable proposition (*infra*, pp. 56–59). The controversy before this Court on this question, as we understand respondent's position, is simply as to the extent and character of the navigation necessary to demonstrate the navigability of a body of water.

The extent of the actual navigation must, of course, be appreciable if it is to foreclose any doubt as to navigability."[17] But, so long as it meets this simple test, no more is or can be necessary. The only question, then, is whether the navigation over the Radford-Wiley's Shoals stretch was, as a matter of law, appreciable. If so, the stretch is navigable under the self-evident proposition that a stream which has been navigated is navigable.

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[17] Thus, actual navigation in several cases has been held insufficient to establish navigability. In *United States* v. *Rio Grande Irrigation Co.*, 174 U. S. 690, 699, the navigation consisted of logs and rafts which could be floated only in times of temporary high water. *Leovy* v. *United States*, 177 U. S. 621, 627, dealt with a crevasse from the Mississippi, over which oyster fishermen sometimes traveled, but which had never been used to carry freight or passengers and which had since closed into a mere marsh. In *Oklahoma* v. *Texas*, 258 U. S. 574, 587–590, the navigation was only exceptional and the Red River was shown to have sufficient water for navigation only during temporary periods of high water, and that since the cessation of all navigation the river had become even shallower (258 U. S. at 587–590). *United States* v. *Oregon*, 295 U. S. 1, 20–23, dealt with lakes which had been used only for sporadic, noncommercial boating and which frequently dried up entirely.

(a) *Early navigation.*—The first account of navigation on New River, according to the District Court, is that of an exploration trip in 1742; thereafter a number of expeditions navigated the river over the reach now in issue (R. 111–112). It is true that the trips were difficult, and that portages were necessary (R. 112), but the important fact is that they were made. It is true, also, that New River was never extensively used as a route to the west and the north (R. 1581–92). But it is necessary in this connection to remember that below Hinton, the Kanawha Falls, 18 feet high, stand in the way of access to the Kanawha River.

In July 1819, Moore and Briggs surveyed the river for the Virginia Board of Public Works. The survey covered something over 55 miles of the river above Hinton.[18] They reported (R. 2308):

> This is truly a noble river. Notwithstanding it was represented to us as being remarkably low, yet it afforded a superabundance of water for every purpose of internal navigation. The fall in this part of the river, considering the mountainous country it passes through, is comparatively moderate. The principal falls are the Bull falls, MacDaniel's, Anderson's, Wiley's, Neilley's, and Peter's mountain falls: none of which has ever been improved in the least degree;

[18] It began at the mouth of Greenbrier River (at mile 64) and went to the mouth of Sinking Creek (at mile 119) (R. 2308).

> yet we ascended them all with our boat; though, in two or three instances, with considerable difficulty, after taking out our baggage, stores, etc.

The surveyors concluded, from their mile-by-mile survey, that the needed improvements (necessary on 27 of the 56 miles) would cost $10,400 (R. 2308–11).

(b) *Engineers' reports.*—There have been many reports on New River by the Corps of Engineers of the United States Army. The first was in 1872 and the last in 1930. The conclusions as to navigability are by no means consistent, but the actual extent of the navigation emerges with some clarity. It is these reports which the court below said constituted "the most reliable evidence in the case" (R. 2897–98).

N. H. Hutton, Assistant Engineer, surveyed the river in 1872 between Hinton (mile 62.4) and Lead Mines (mile 190). His report makes it plain that the river was then navigated, although of course not without difficulty. He said (R. 2288):

> The present system of transportation on this portion of the river is by keelboats which carry from two to three tons, and are rowed or floated down the river and poled up. An expenditure of $100,000 would greatly ameliorate the condition of the river for this trade, and enable the trips to be made with so much more certainty as to induce a considerable increase of trade.

Subsequent reports confirm the existence of a considerable navigation. The Chief of Engineers in 1878 reported (R. 2326):

> The plan adopted for the improvement of this river contemplates a channel-way 30 feet wide and 2 feet deep below the lowest water, *suited for the keelboats now in use,* * * *. [Italics added.]

The Chief of Engineers in 1880 saw the improvement as one "for the benefit of the bateaux now in use and for very light steamboats" (R. 2360–61); the keelboats after the improvement were said to "have much greater ease in navigation and can carry larger loads" (R. 2363, 2366).

The reports indicate that, while the commerce was concentrated around Hinton and Radford (R. 2366), the navigable channel, though at times tortuous or difficult, ran "throughout this distance" from above Allisonia to Hinton[19] (R. 2370; see, also, R. 2394, 2406–07). The chief effect of the im-

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[19] The Chief of Engineers in 1882, it is true, reported that (R. 2384); see, also, R. 2396, 2407):

"The navigation of the river not being continuous as yet, it is practically a feeder to the several railroads which cross it and run along portions of it. * * *"

It is immaterial whether the navigation was not "continuous" in the sense that it was interrupted by low water (R. 2366, 2385–86) or in the sense that regular commerce was concentrated around Hinton and Radford (R. 2366). In either case, the existence of a Radford-Hinton commerce, whatever its feasibility in the few months of low water or whatever the irregularity of commercial trips in this sparsely settled region, seems indisputable.

provement was to facilitate already existing navigation. Thus, the Assistant Engineer in 1881 reported (R. 2373):

> Four lines of keelboats, eight in all, now run regularly on this part of the river, the improvement enabling them to carry two-thirds more freight than formerly; for instance, 1,500 feet of lumber used to be a load; now it is 4,500 feet.

The improvement, the Engineers reported, "has had reference to a navigation by the boats now in use on the river" (R. 2381).

In 1899 the Chief of Engineers explained the cessation of improvement and the decline in navigation (R. 2429):

> Work was carried on under these appropriations until 1889, when it was suspended on account of changed conditions which lessened the usefulness of the river as a means of transportation, such as the great development of the railroad systems paralleling the river.

He continued, however, to state that the river was navigable (R. 2429). The Chief of Engineers in 1900 made a similar ruling, in substantially the same language [20] (R. 2431). The Secretary of War

[20] In that year Congress consented to the construction of a dam above the reach here urged to be navigable on condition the owners make at their own expense any modification required by the Secretary of War in the interests of navigation on the river (R. 2441–47). Two other authorizations, containing similar conditions, were enacted in 1911 (R. 2452–53).

and the Chief of Engineers in 1908 (R. 2457–58) and the Assistant Secretary of War in 1912 (R. 2453) were of the same opinion.

The Board of Engineers in 1912, however, reported that "there is no navigation on the reach between Radford and Glenlyn"; this seems to have been because "the country adjacent is sparsely settled" and this stretch of the river "is paralleled for most of the way by two railroads"[21] (R. 2419–20; see, also R. 2421–23, 2425–26).

On August 20, 1925, Major General Taylor, Chief of Engineers, reported to the Federal Power Commission that New River was navigable and that respondent's project would affect the navigable capacity of the New and Kanawha rivers (R. 2517–21). His survey of the earlier reports led to the conclusion (R. 2521):

> From the above facts it is established that New River has been under Federal improvement for navigation, that navigation has actually existed and that the river was physically capable of interstate navigation al-

[21] It continued (R. 2420):

"There is very little commerce on this river at present, and as there are no commercial or mining industries of importance, no material increase could be expected even if it were improved. Physical conditions are such that it could not be improved for useful navigation except at prohibitive cost. The board, therefore, reports, concurring with the views of the district officer and the division engineer, that it is not advisable for the United States to undertake the improvement of New River from Radford, Va., to Hinton, W. Va."

> though very light draft. The fact that navigation does not exist at present is not understood to change the legal status of the stream. * * * If free from any control by the United States it would be difficult to ascertain authoritatively that the proposed development would be in general accord with the most beneficial utilization of the water for navigation, water power, flood control and other beneficial public uses. It is obvious that such utilization is essential to the best interests of commerce. Therefore, while the navigable capacity of the stream is limited, this office must report that no sufficient reason is seen why the Federal Power Commission should not exercise jurisdiction over the proposed project.

However on December 29, 1925, Major General Taylor, acting on the request of respondent's predecessor transmitted by the Commission, reconsidered this opinion and ruled New River to be nonnavigable, and that there would be no adverse effect upon downstream navigation (R. 2727–33). The conclusion as to navigability was based not upon any new survey of the river but upon the physical characteristics of the river as shown by the surveys of 1872 and 1879 (see *infra*, pp. 62–73), upon the discontinuation of the improvement work and upon the plainly incorrect statement (R. 2531) that—

> Continuous navigation on the river has never been possible, and whatever commerce

has existed has been altogether local, apparently confined to the 25-mile section in West Virginia ending at Hinton.

On November 11, 1930, Major General Brown, Chief of Engineers, declined to reconsider this last opinion because "It is my opinion that New River is not navigable at any point in its course" (Ex. 539–B, R. 2795–96).

It will thus be seen that the War Department from 1872 through August 20, 1925, was of the opinion that New River was navigable. After December 29, 1925, it was of the view that the river was nonnavigable, because of its physical characteristics and its impression of the extent of the actual navigation during the period 1870–1900. Certainly as to the last, the reports contemporaneous with the navigation are alone entitled to weight.

(c) *Testimony as to navigation.*—The record is remarkably full with respect to eyewitness testimony as to navigation over the Radford-Wiley's Shoals section of the river. The testimony covered, roughly, a 25-year period from the Civil War to about 1885. The witnesses of necessity were old men. Because of this the District Court found "there is a vagueness about the extent to which it [the navigation] occurred" (R. 114), and the majority of the court below declared "such testimony has inherent infirmities" (R. 2901–02). But it

seems evident that the age of the witnesses and the fact that the navigation occurred half a century before lends weight to their testimony, particularly since this testimony was uncontradicted (see *infra*, pp. 49–51). If the recollection of aged men is so full, the actual navigation must have been even more extensive. Since it occurred half a century before, there is, of course, some vagueness about the particulars, but there is no vagueness about the existence of navigation, or that its cessation resulted from construction of a paralleling railroad (R. 205–6, 262, 304, 340, 469).

The inset on the opposite page gives a graphic summary of the testimony as to actual, observed navigation on New River. Where the testimony does not indicate the origin or destination of the navigation, it is represented by a point with an arrow indicating the direction.[22] The testimony upon which the chart is constructed is impressive. The tabulation of this testimony, printed as Appendix B. *infra*, p. 178, indicates that 62 witnesses testified as to navigation over the river. Some 26 witnesses testified that they had seen navigation within the Radford-Wiley's Shoals reach,

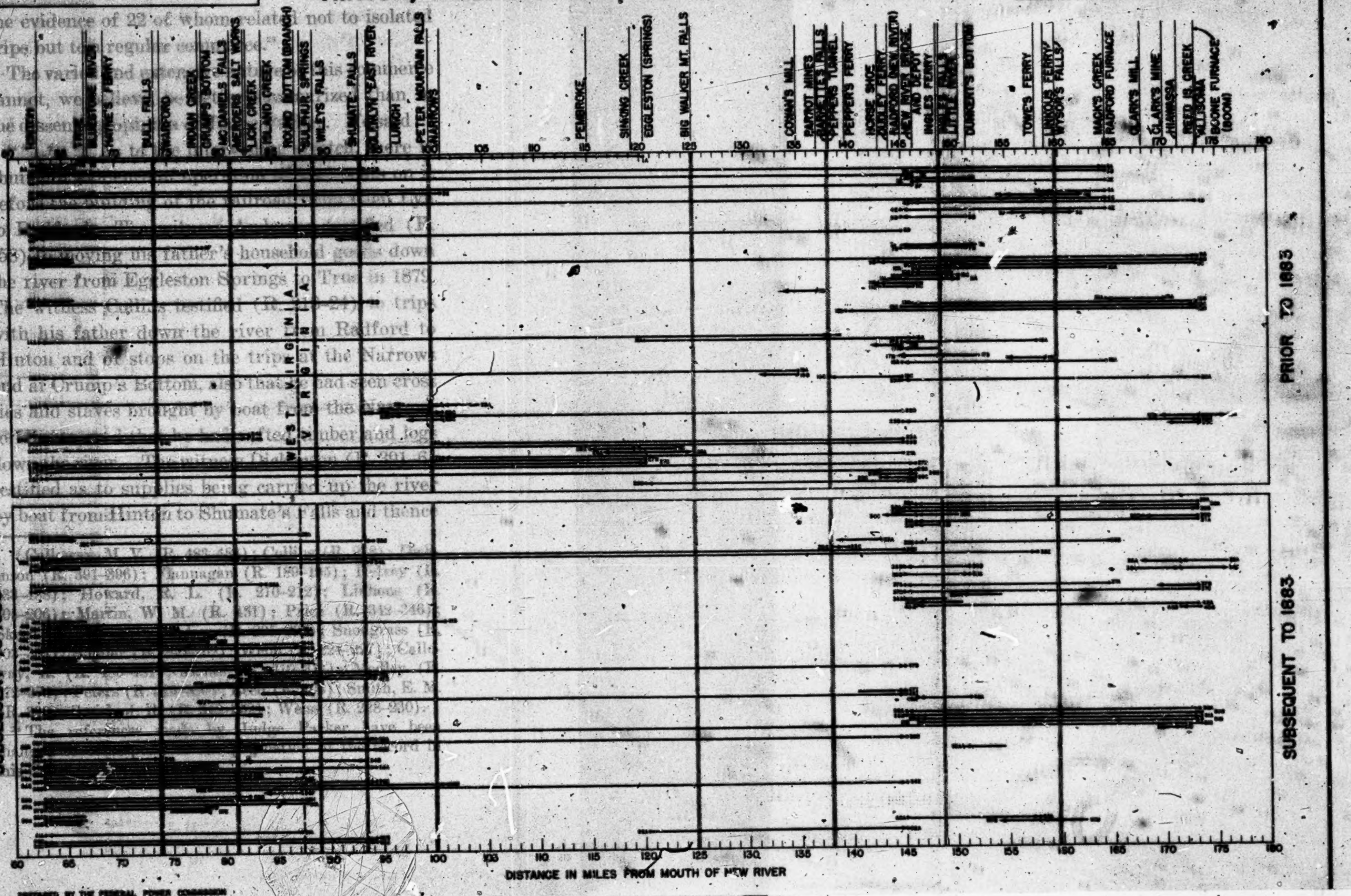
[22] Since the courts below intimated that natural obstructions made navigation impracticable, we have also included in the chart the principal obstructions on New River between Hinton, West Virginia, and Allisonia, Virginia. These are Bull Falls, McDaniel's Falls, Wiley's Falls, Shumate Falls, Peter Mountain Falls, Big Walker Mountain Falls, Barnette's Falls, Ingles Falls, and Wysor's Falls.

UNITED STATES
v.
APPALACHIAN ELECTRIC POWER CO.
NO. 674, OCTOBER TERM, 1959

# COMMERCIAL NAVIGATION ON NEW RIVER BETWEEN HINTON, WEST VIRGINIA AND ALLISONIA, VIRGINIA

LEGEND
- NAVIGATED DISTANCE INDEFINITE
- NAVIGATION BETWEEN GIVEN POINTS
- DIRECTION OF TRAVEL
- REFERS TO TESTIMONY IN SUPPLEMENTAL RECORD

APPENDIX B




PREPARED BY THE FEDERAL POWER COMMISSION

the evidence of 22 of whom related not to isolated trips but to a regular commerce.[23]

The varied and extensive nature of this commerce cannot, we believe, be better summarized than in the dissenting opinion of Judge Parker. He said:[24]

"* * * As to the intervening stretch, there is abundant evidence of operation of keel boats on it before the building of the railroad from Glen Lyn to Radford. The witness Anderson testified (R. 458) to moving his father's household goods down the river from Eggleston Springs to True in 1879. The witness Collins testified (R. 218–24) to trips with his father down the river from Radford to Hinton and of stops on the trips at the Narrows and at Crump's Bottom, also that he had seen cross ties and staves brought by boat from the Narrows to Hinton, and that he had rafted timber and logs down the river. The witness Dickenson (R. 391–6) testified as to supplies being carried up the river by boat from Hinton to Shumate's Falls and thence

[23] Calloway, M. V. (R. 483–484); Collins (R. 218); Dickenson (R. 391–396); Flannagan (R. 189–195); Helvey (R. 433–438); Howard, R. L. (R. 210–212); Linhons (R. 205–206); Martin, W. M. (R. 451); Price (R. 342–346); Skeen (R. 339–341); Sindow (R. 295–297); Snodgrass (R. 303–304); Snyder (R. 260–262); Webb (R. 2[illegible]-227); Calloway, R. (R. 480–481); James (R. 310–311); Medley (R. 372–374); Peters (R. 319–320); Reed (R. 406); Smith, E. M. (R. 398); Smith, J. R. (R. 348–352); Weiss (R. 228–230).

[24] The references made by Judge Parker have been changed to correspond to the pagination of the record in this Court.

by wagon to Glen Lyn. The witness Flannagan testified that the keel boats plied up and down the river from Hinton to Allisonia (R. 189–96). The witness Helvey testified to grain being carried by boat up the river from the horseshoe to Radford and of the use of boats in the river (R. 433–5). The witness Hoover testified to shipping supplies by boat from Hinton to the camp of the Railroad contractors at East River or Glen Lyn (R. 416). The witness Linkous, when a boy and living at Pepper Tunnel below Radford, had seen boats going up and down the river operated by former slaves whose names he remembered. He remembered also selling eggs to the boatmen and their custom of blowing a bugle as they passed (R. 205–6). The witness Martin who lived at Eggleston testified to working in a boat on the river and carrying it up the river to Radford and selling it (R. 451). The witness Price who lived near Tom's Creek when a boy saw boats going up and down the river loaded with coal, corn, wheat, crated chickens, hogs, and produce of all sorts (R. 346–8). The witness Skeen, a Confederate veteran, testified that while camped at the Narrows he saw boats going up and down the river, bringing provisions to the commissary at the Narrows (R. 339–40). The witness Snidow, who lived at Pembroke, six miles below Eggleston testified to seeing the boats operating on the river during the Civil War, and of the management of the boats by a Captain Burke,

and of how the boats, 4 or 6 in number were loaded with grain and sent down the river (R. 295–7). The witness Snodgrass who lived at Eggleston saw boats operated in the river and saw them bring supplies down the river to the railroad contractors (R. 303–5). The witness Snyder saw boats operated between Radford, Eggleston, and the Narrows during the Civil War loaded with supplies for the soldiers. He testified also that after the War his father operated a boat, going as far down the river as Hinton (R. 260-5). The witness Webb who lived at the Horse Shoe on New River saw boats going up and down the river and heard the boatmen say that they went as far as Hinton (R. 225). He testified that for several years after the Civil War the barges were operated by hired hands and hauled wheat and lumber (R. 226). The witness Coleman operated a steamboat for six or seven months from Pepper's Ferry to Pepper's Tunnel (R. 198). The witness James testified to bringing logs by raft or loose down the river from Narrows to Hinton (R. 311). The witness Medley testified to working in bateaux in the river from Hinton to Mercer's salt works and from there to Radford, of bringing fertilizer from Glen Lyn to the salt works, of bringing staves from Wylie's Island, and of moving a man's household goods up the river to Radford (R. 372–3). The witness Owen testified to carrying the government boats which had been engaged in the river work above Radford down

the river to Hinton where they were sold (R. 245–6). The witness Peters testified to hauling tobacco by boat from Glen Lyn to Hinton for shipment by rail (R. 327): He also testified that he worked on the river in boats for 16 or 18 years, that in the Spring he would go up the river to Glen Lyn to get fertilizer, and that while the N. & W. R. R. was in process of construction he went up nearly every week (R. 321). The witness E. M. Smith testified to working on river boats for 9 years and carrying groceries and other merchandise to Glen Lyn and carrying lumber, staves, tobacco, and tanbark downstream (R. 398). The witness Weiss testified to the operation of one of the keel bottom boats by his brother and of his hauling staves and other things from Glen Lyn to Hinton (R. 228–9)."

The testimony as to actual navigation on the Radford-Wiley's Shoals stretch probably relates to times prior to 1883, for in that year completion of the Norfolk & Western Railroad paralleling the river between Glen Lyn and Radford "about cut the boat business out" in that section of the river.[25]

This extensive testimony of navigation over the Radford-Wiley's Shoals stretch stands uncontradicted. Only 3 witnesses offered by respondent could recall no traffic on that part of the river;[26]

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[25] Skeen (R. 340); see, also, Snodgrass (R. 304); Snyder (R. 262); Linkous (R. 205–6); A. G. Flannagan (R. 469).

[26] Spangler, C. R. (R. 1498–9); Spangler, W. H. (R. 1503–9); Hundley (R. 1643–9).

this, of course, does not stand in contradiction of the affirmative testimony as to the existence of an actual navigation. Indeed, this evidence of actual navigation was corroborated by 7 witnesses for the respondent, each of whom recalled one or more instances of commercial traffic on this reach.[27]

The majority of the court below sought to avoid the force of this testimony by stating that the "trips could be made only at particular times when there was unusually high water" (R. 2902–03). The District Court intimated no such qualification to this extensive record of navigation, and the record is wholly barren of support for the statement.

The only trip alleged to have been made at unusually high water, i. e., at "5 to 6 feet flood tide" "between the 15th and 20th of September 1901" (VIII, 248) is actually shown by the records of the United States Geological Survey to have been made with the river at from 13 to 19 inches above the stage during mean flow.[28] On the other hand, not one of the 30 witnesses testified that traffic on this reach of the river took place or was possible

[27] Buckland (R. 1514–5); Lilly (R. 1517–23); Talbot (R. 1541–3); Gerald (R. 1547–55); Osborne (R. 1651–54); Adair (R. 1525–6); Knode (R. 1572).

[28] Water Supply Paper No. 536 (Govt. Exs. 68–83, Original, p. 26) shows the discharge to have ranged between 6,000 and 7,550 second-feet during this period. A Geological Survey rating table (Govt. Ex. 67, Original) shows the mean discharge (R. 109) to be equivalent to a stage of 2.7 feet, one of 6,000 second-feet to a stage of 3.8 feet, and one of 7,500 second-feet to a stage of 4.3 feet.

only during periods of *unusually* high water.[29] It is true that some of these witnesses recalled that passage of "several difficult falls" referred to by the court below (R. 2900–01), i. e., Shumate's Falls, Peter Mountain Falls, and Walker Mountain Falls, was difficult and at times impossible at low stages. But this was also true of the undoubtedly navigable reaches prior to their improvement (Report of Chief of Engineers, R. 2361). It is likewise true of many other navigable streams, for example, the Tennessee River and its navigable tributaries (H. Doc. 328, 71st Cong., 2d Sess., pp. 1–2, 6, 10, 83–4, 214–7). Furthermore, it must be noted that this finding in the majority opinion, that the trips between Radford and the West Virginia line by boats with maximum draft of 2 feet took place only during periods of *unusually* high water, cannot possibly be reconciled with the report submitted to Congress by the War Department in 1912 to the effect that navigable depths of 2 feet over the controlling bars between Radford and Hinton would ordinarily be found (R. 2422).

Finally, as late as July 1936, during summer low water (R. 1194–7), the river was navigated from Hinton, West Virginia, to Allisonia, Virginia, and

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[29] To the contrary see: Collins (R. 220–1); Flannagan (R. 189–90, 195); Snodgrass (R. 203–4); Peters (R. 331–3); J. R. Smith (R. 249–52, 361); E. M. Smith (R. 398–9); Reed (R. 407); Buckland (R. 1516–7); Knode (R. 1572).

return by a motorboat drawing from 2½ to 3 feet of water when operating at full speed [30] (R. 1195). The crew, unfamiliar both with the channel and an outboard motor, propelled the boat by poles or by getting out and pulling it only twice for a distance of 200 feet on the downstream trip (R. 1197–8) and on the upstream trip only 17 times for a total distance of 1 to 1¼ miles [30a] (R. 1198, 1221–22). No portage whatever was made upstream or downstream, either of the boat or equipment (R. 1195–96). On this trip the witness counted 50 boats between Hinton and Narrows, Virginia (at mile 101); these were mostly rowboats, but there were also several ferries and motorboats (R. 1198–9).

The Radford-Wiley's Shoals section of the river thus has borne a varied and an extensive navigation. No more can possibly be necessary to show that this part of the river is navigable.

(d) *The legal criteria of the courts below.*—The courts below minimized but did not deny this actual navigation. Instead, they introduced novel qualifications to the definition of navigable waters. The

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[30] The boat was a survey boat, 16 feet long, 5 feet wide, and equipped with an outboard motor; it drew 8 to 10 inches of water when not equipped with a motor (R. 1194). The boat carried 5 men and their equipment on this trip (R. 1194).

[30a] Shortly thereafter the same boat, equipped with a propeller guard, navigated without difficulty to the Bull Falls section (at mile 74) through which it had been necessary to pull the boat on the previous trip when the propeller had been left unguarded (R. 947–9, 1220–21, 1227).

District Court relied upon: (1) the irregularity of the commerce; (2) its difficulty; and (3) the fact that it formed no appreciable part of the river's commerce.[31] The majority of the court below advanced somewhat different legal standards.[32] The actual navigation, it ruled, was to be disregarded because of: (1) its difficulty and danger; (2) there was no established trade or commerce over this part of the river; and (3) the commerce lasted for only a few years and has been abandoned for the last 50 years.[33] These limitations upon the doctrine of navigable waters are, we submit, wholly unwarranted.

First, it is wholly unimportant that the actual navigation has been abandoned. The DesPlaines River had been out of use for a century, "but a hundred years is a brief space in the life of a na-

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[31] It said (R. 114): "there is a vagueness about the extent to which it occurred and indications that such trips were irregular, were attended with difficulty and formed no appreciable part of any commercial transportation which took place on the river."

[32] A novel statement of fact, that the trips could be made only in periods of unusually high water, has been shown to be wholly without support in the record (*supra*, pp. 53–54).

[33] It said (R. 2903): "that such trips could be made only at particular times when there was unusually high water; that even then navigation was not only difficult but also dangerous; that while the boats at times may have carried some country produce there was nothing like an established trade and commerce between Radford and points in West Virginia; and that the duration of such use of the keelboats was for a few years only and has been nonexistent for more than 50 years."

tion," and if federal control of navigable waters is to be abandoned "it is for Congress, not the courts, so to declare." *Economy Light Co.* v. *United States, supra,* 124. And in *Arizona* v. *California,* 283 U. S. 423, 453–454, the Court said:

> Commercial disuse resulting from changed geographical conditions and a congressional failure to deal with them, does not amount to an abandonment of a navigable river or prohibit future exertion of federal control.

Second, it is quite immaterial that the navigation be accomplished with difficulty or even danger, so long as there was actual navigation. Navigation on the high seas, since times immemorial, has been a difficult and dangerous occupation, yet it cannot be said that the seas are not navigable. In passing on the navigability of the Fox River, in *The Montello,* 20 Wall. 430, 443, this Court stated:

> * * * the river is navigable in fact, although its navigation may be encompassed with difficulties by reason of natural barriers, such as rapids and sand-bars.

Third, the irregularity of the commercial trips, or the absence of an established trade route, plainly is irrelevant to the question of navigability. Trips which occur only when there is a sufficient commercial demand prove navigability as completely as those which move on regular schedule. *United States* v. *Utah,* 283 U. S. 64, settles that regularity of the traffic, or the existence of an established

trade route is unnecessary. The lumber rafts floated on the Grand River (283 U. S. at 79) could hardly have moved on a regular schedule; the Green and Colorado Rivers were wholly unused for navigation over a 17-year interval and thereafter were used chiefly for the sporadic traffic involved in trips for exploration, pleasure, and mineral prospecting, and only occasionally for commercial carriage (283 U. S. at 82).

Fourth, the District Court's view that the commerce over the relevant stretch must be an appreciable part of the river's total commerce is obviously unsound. The issue is the navigability of the Radford-Wiley's Shoals stretch, and the substantiality of its commerce, not the commercial importance of its traffic as compared to other navigable parts of the river.

Finally, respondent seems to suggest (Br. in Opp. 13) that the character of the boats used on New River may bear upon the question of its navigability. But the size or character of the vessels is, of course, immaterial. In *Economy Light Co.* v. *United States,* 256 U. S. 113, 117, this Court found the DesPlaines River navigable because supplies needed by the early settlers had been carried by canoes and other boats of reasonably large capacity but light draft. Indeed, in *Water Power Co.* v. *Water Commissioners,* 168 U. S. 349, 359, the questioned part of the Mississippi River was held navigable because it had been used for floating logs

and rafts. And in *The Montello,* 20 Wall. 430, 441–442, the Fox River was held navigable because it was used by boats substantially similar to those used on the New River.[34]

*2. Suitability for Navigation*

Even if, however, the voluminous evidence of the actual navigation on this stretch of the river were to be disregarded, the conclusion would yet be compelled that it is navigable, because it is susceptible of or suitable to navigation.

Section 3 (8) of the Federal Power Act defines navigable waters as those—

> which either in their natural or improved condition notwithstanding interruptions * * * by falls, shallows, or rapids compelling land carriage, are * * * suitable for use for the transportation of persons or property * * *.

If the stream, then, is capable of being used for transportation, either in its natural condition or after improvement, it is navigable.

The reason for this broad definition, going beyond the historical fact of actual navigation, is well stated in the 1891 report of Colonel Craighill, recommending complete discontinuation of the improvement work on New River (compare *Econ-*

[34] The Fox River carried Durham boats. These were vessels of from 70 to 100 feet long and 12 feet broad; they drew, when loaded, some 2 to 2½ feet of water, and were drawn by animals (20 Wall. at 441).

*omy Light Co.* v. *United States*, 256 U. S. 113, 124). The Colonel said (Ex. 43; R. 2413):

> Here attention may be called to the effect of the changing conditions which sometimes arise and New River is a striking illustration of it. In a country rich in minerals and agricultural products a natural waterway may be of the greatest value, especially if there be no competing railroads and the cost of its improvements be not very great. In course of time competing railroads are built, the topography being favorable. If the expense of the improvement of the river be great and the available money little, the railroads will take the business and the river becomes comparatively unimportant. This has for some years been the situation in the New River country, especially the upper portion.
>
> In time, as population increases and great mining, manufacturing, and agricultural industries become enlarged, the importance of the natural waterway again increases to such an extent as to justify a higher style of improvement, and in many instances the construction of canals is also found advantageous. This condition has been reached in several of the great European States, and will be in time in the United States.
>
> New River has, however, not reached this stage. It is at present in the second stage of comparative unimportance.

Accordingly, if there had been no appreciable commercial navigation on this stretch of the New

River, the question of its navigability would then turn upon its suitability for navigation. As the Court in *United States* v. *Utah*, 283 U. S. 64, 82, said of navigation in another sparsely settled region:

> The question of that susceptibility in the ordinary condition of the rivers, rather than of the mere manner or extent of actual use, is the crucial question * * *.

The issue, then, is whether the Radford-Wiley's Shoals stretch of New River has susceptibility for navigation. It is easily resolved by application of settled rules to the substantially undisputed facts of this case.

(a) *Actual navigation as evidence of suitability for navigation.*—Even if we were to assume that the courts below were right in holding that the commercial traffic in the Radford-Wiley's Shoals section was too small to be appreciable, we submit that the conceded traffic on this stretch is complete proof of its *suitability* for commercial navigation. A few trips between Allisonia and Hinton would not, of course, show an appreciable commercial navigation. But they would demonstrate *suitability* for navigation.

Judge Parker, after showing that there had been substantial commercial transportation in this stretch, stated as follows (R. 2928):

> the use made of the stream shows conclusively that it was capable of serving as a

highway for such commerce between Allisonia and Hinton for river boats of light draft, such as were undoubtedly in regular use on the river prior to the coming of the railroads.

(b) *Physical characteristics.*—Suitability of a stream for navigation is determinable from such physical characteristics as (i) the sufficiency of water flow, (ii) the velocity of the current and (iii) the existence of a channel of sufficient width and depth to permit the passage of the means of navigation through such natural obstructions as may be found in the stream.

(i) *Sufficiency of water flow.*—If the stream be navigable only in exceptional periods of high water, it is not navigable. *United States* v. *Rio Grande Irrigation Co.,* 174 U. S. 690, 699. On the other hand, there need not be a sufficiency of water throughout all seasons of the year. *Economy Light Co.* v. *United States,* 256 U. S. 113, 122.

There should in this case be little question as to the sufficiency of the waterflow. The lowest known flow at Radford, Virginia, at this point was 521 cubic feet per second on September 6, 1930 (R. 551). The greatest flows known at this point occurred in 1878 and 1916 and were estimated to be, respectively, about 155,000 and 146,000 second-feet (R. 551). The average flow at Radford over a period of 28 years ending in 1935 was 3,211 second-feet (R. 109, 551.)

The District Court found (R. 109):

> From these figures it will appear that, while the flow in New River is subject to wide variation, the river carries a large volume of water in the course of a year. There is no denial that the volume of water passing through the stream over any extended period would be sufficient for purposes of substantial navigation provided other conditions obtained which made it available for that purpose.

The court below seems to have been of the same view (see R. 2895–96, 2900–01), and respondent has not either below or in this Court, argued that the waterflow was insufficient for navigation.

(ii) *Velocity of the current.*—For a stream to be navigable, it must of course have a current velocity low enough for practicable[35] navigation. *United States* v. *Utah*, 283 U. S. 64, 80.

The degree of slope of the various parts of New River is not in issue. It varies considerably between its source and its mouth.[35] The north fork of the river in North Carolina has a slope of as much as 31.5 feet per mile. The slope from Hinton, West Virginia, to the mouth of the river is 11.1 feet per mile. The average slope from Wilson Creek (at mile 252) to the mouth of the river is 7.1 feet per mile. But the slope in the Allisonia-

[35] The data as to the slope of the river are taken from Ex. 196 (I, 2).

Hinton stretch is only 4.4 feet per mile. The average slope in the Allisonia-Radford section is 5 feet per mile; in the Radford-Wiley's Shoals section it is 4.4 feet per mile; and in the Wiley's Shoals-Hinton section it is 3.8 feet per mile.

It is evident that there is nothing in the slope of the Radford-Wiley's Shoals stretch to make it nonnavigable.[36] It is 0.6 feet per mile less than the slope of the Allisonia-Radford section, the navigability of which seems beyond dispute (*supra*, pp. 35–38). It is barely more than half the slope of the upper 18 miles of the Fox River, 8 feet per mile,[37] which was found navigable in *The Montello*, 20 Wall. 430.

Moreover, the uncontradicted evidence shows that river navigation is practicable at current velocities of 5 to 6 miles per hour (R. 927). The District Court made no finding on the velocity of the current in the Radford-Wiley's Shoals stretch. The Circuit Court of Appeals made a general find-

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[36] The lower courts were not wholly fair in their discussion of the slope of the river. The District Court, in stating that the slope of the river above Radford and Hinton was about 4 feet per mile, drew an implied contrast between these stretches and the intervening reach (R. 114). The court below confined its discussion to the fact that the slope was "very much greater than the average in many places" (R. 2900–01), and that the entire river had a slope of 7.1 feet per mile (R. 2895).

[37] See Annual Report of Chief of Engineers for 1876, Part II, p. 235.

ing, with reference to the river as a whole, that the river had a "relatively rapid current" (R. 2893). At the same time the court found that the pools "of comparatively still water" were separated by rapids and shoals where the stream velocity varied from 3 to 5 miles per hour (R. 2894–96). It must follow, from the court's own findings, that the stretch was navigable so far as current velocity is concerned.

The velocity of the current was measured by petitioner's witness Gerdes for each of the natural channels or sluiceways through the 41 rapids and shoals between Radford and Wiley's Shoals. The results are set forth in the table at p. 70, *infra*. It will be noted that the velocities in these more difficult places varied from as little as 1.1 mile per hour to a maximum of 4.4 miles per hour, and that there were only four places where the velocity exceeded 4 miles per hour. In these circumstances it cannot be said that the velocity of the current was so swift as to render navigation impracticable.

(iii) *Channel through natural obstructions.*—The courts below, and respondent, place much emphasis upon the natural obstructions to navigation, and conclude that the rapids and shoals preclude navigability (R. 108). This we think is wholly erroneous.

1. The premise of the courts below is erroneous as a matter of law. In Section 3 (8) of the Federal

Power Act, Congress provided that streams shall be deemed navigable "notwithstanding interruptions between the navigable parts of such streams or waters by falls, shallows, or rapids compelling land carriage". It is settled even apart from Section 3 (8) that the mere existence of obstructions, even though they wholly destroy continuous navigation, does not make a stream nonnavigable. In *The Montello,* 20 Wall. 430, 442–443, where the Fox River was held navigable, this Court noted that there were rapids and falls, with carrying places for distances of as much as two miles. And in *Economy Light Co.* v. *United States,* 256 U. S. 113, 122, this Court said:

> Navigability, in the sense of the law, is not destroyed because the watercourse is interrupted by occasional natural obstructions or portages.

And in *United States* v. *Utah,* 283 U. S. 64, 86, the Court held that the sand bars in the Grand and Green Rivers did not destroy their navigability.[38] The stretch of New River under consideration here comes well within these rules.

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[38] It said (p. 86): "Recognizing the difficulties which are thus created, the Master is plainly right in his conclusion that the mere fact of the presence of such sandbars causing impediments to navigation does not make a river non-navigable. It is sufficient to refer to the well-known conditions on the Missouri River and the Mississippi River. The presence of sandbars must be taken in connection with other factors making for navigability."

This Court has recognized that navigability is not destroyed because improvement may be necessary. In *Ashwander* v. *Tennessee Valley Authority*, 297 U. S. 288, 329, it said:

> While, in its present condition, the Tennessee River is not adequately improved for commercial navigation, and traffic is small, we are not at liberty to conclude either that the river is not susceptible of development as an important waterway, * * *

2. The court below placed much emphasis upon the mile-by-mile survey of the river made by N. H. Hutton in 1872 [39] and contained in the Craighill report of that year (R. 2282–87). The stretch between Radford and Wiley's Shoals,[40] it is true, contains some rather formidable descriptions. The most extreme of the eleven examples quoted by the court below (R. 2900–01; from R. 2285) are:

> 67th mile. Shoals continue for 1,600 feet; then a short pool and Walker's Mount Falls, where the river falls 5 feet in 500 feet, over two ledges of shale and metamorphic limestone.

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[39] This report contains the following statement: "It will be understood that in each mile, except to the extent named, the river affords a good navigation and an average depth of 5 feet at low water stages" (Ex. 31, R. 2282).

[40] This stretch (mile 145 to mile 89.1) represents the 46th to 102nd mile in this report, since it took the Lead Mines (at mile 190) as the starting point.

68th mile. Continuous ledges of 4,000 feet; fall, 8 feet.

* * * * *

92nd mile. Peter's Mountain Falls, where river falls 4½ feet in 1,300 feet, over a succession of limestone ledges; terminating in an abrupt fall of 5 feet.

But equally formidable obstacles stood in the way of easy navigation on the Allisonia-Radford and Wiley's Shoals-Hinton stretches, the navigability of which seems beyond question. From the same survey, the following descriptions of the Allisonia-Radford stretch are to be noted (R. 2283):

25th mile. Allison's Falls occur at the beginning of this mile, where the river falls 3 feet in 300 feet over a ledge of red shale.

* * * * *

29th mile. River falls 8 feet over a succession of nine ledges of shale.

* * * * *

31st mile. Wysor's Falls, where river falls 7 feet over two sets of ledges, both about 800 feet wide.

And in the Wiley's Shoals-Hinton stretch the survey is equally calculated to discourage boatmen. It says (R. 2286–87):

104th mile. Commences with shallow riffle, 600 feet long, over bowlders and

gravel, and following this occurs Wiley's Falls, where the river falls 4 feet in 10 feet, over a limestone ledge about 50 feet wide.

* * * * *

109th mile. Swift water and riffles over bowlders for three-fourths of a mile, terminating with a fall of 3 feet over a limestone ledge 200 feet wide; several large detached rocks below falls.

* * * * *

119th mile. Bull Falls, ledge 3 feet high; blasting for 100 feet, and rapids 300 feet long below, over pebbles and bowlders.

120th mile. Four ledges 250 feet long over all, ending fall of 3 feet over a ledge 20 feet thick.

The Hutton survey, if its description of obstacles in the Radford-Wiley's Shoals stretch were conclusive of nonnavigability, would demonstrate equally that the obviously navigable stretches are nonnavigable. It is plain that one must look further to answer the question of navigability.

3. The answer is found in the important fact of channels through the shoals and rapids, a factor which the courts below wholly ignored.

Petitioner's witness Gerdes made actual measurements of the channels through each of the natural obstructions between Radford and Wiley's Shoals. The measurements were made at low

water (R. 906). His testimony (R. 914–926) may be tabulated as follows:

*Measurement of width and depth of channels and velocity of currents*

| Mile | Name | Width (feet) | Depth (feet) | Miles per hour |
|---|---|---|---|---|
| 89.1 | Wiley's Shoals | 24 | 2 to 4 | 1.9. |
| 90.9 | Shoal No. 2 | 24 | 3 or more | 2.8 to 3.6. |
| 91.3 | Shoal No. 3 | 18 | 2.5 | 2.3. |
| 92.8 | Shumate's Falls | 16 to 40 | 2.1 to 3 | 1.9 to 3.5. |
| 94.1 | East River Shoals | 30 | 2.5 to 3 | 2.5. |
| 97.5 | Rich Creek Shoals | 28 | 2.2 | 2.4. |
| 100.0 | Peter Mountain Falls | 15 | 2 | 2.9 to 4.3. |
| 103.0 | Shoal No. 8 | 40 | 2.6 | 3.2. |
| 104.3 | Shoal No. 9 | 30 | 2.6 | 4.4. |
| 106.2 | French Mill Shoal | 33 | 2.3 | 2.9. |
| 107.0 | Shoal No. 11 | 18 | 2.6 | 1.2 to 2.3. |
| 108.2 | Henley French Shoal | 18 | 2.2 | 3.4. |
| 109.3 | Shoal No. 13 | 28 | 4 | 2.3 to 3. |
| 110.0 | Shoal No. 14 | 30 | 3 | 3.3. |
| 111.0 | Shoal No. 15 | 20 | 2 | 2.6. |
| 111.8 | Snidow's Ferry Shoal | 40 | 2.6 | 1.1. |
| 113.0 | Walker's Creek Bar | 23 | 2.2 | 3.1. |
| 114.7 | Little Stony Creek Bar | 35 | 2.6 | 3.3. |
| 118.0 | Snidow's Falls | 16 to 30 | 2.3 to 4 | 2.5 to 3.9. |
| 119.2 | Sinking Creek Bar | 30 | 2 | 2.1. |
| 119.7 | Upper Sinking Creek Shoal | 20 | 3 | 2.8 to 3.4. |
| 120.7 | Eggleston's Shoals | 18 | 1.8 | 2.9. |
| 121.5 | Shoal No. 23 | 16 | 2.6 | 4.4. |
| 123.1 | Shoal No. 24 | 40 | 2.3 | 2.6. |
| 123.3 | Shoal No. 25 | 30 | 3 | 1.8. |
| 123.5 | Shoal No. 26 | 16 | 2.1 | 2. |
| 124.6 | Big Walker's Mountain Falls | 16 to 30 | 3 to 4 | 4.2. |
| 125–127 | Sifford's Falls | 8 | 1 to 8 | 1 to 2. |
| 127.2 | Sifford's Shoals | 10 | 1 to 2 | 1.4. |
| 130.3 | White Thorn Ferry Shoal | 20 | 1.5 | 2.4. |
| 134.0 | Shoal No. 31 | 20 | 2.3 | 3.2. |
| 136.6 | Shoal No. 32 | 28 | 2.2 | 1.4. |
| 138.0 | Barnette's Falls | 15 | 2 | 2.8. |
| 139.7 | Lower Pepper Falls | 18 | 2.4 | 3.7. |
| 140.3 | Upper Pepper Falls | 30 | 2 | 2.3. |
| 141.8 | Shoal No. 36 | 60 | 3 | 3.9. |
| 142.8 | Shoal No. 37 | 40 | 2.1 | 2.3. |
| 143.4 | Shoal No. 38 | 35 | 2.5 | 3. |
| 143.9 | Shoal No. 39 | 25 | 2.5 | 2.8. |
| 144.2 | Shoal No. 40 | 30 | 2 | 2.3. |
| 145.0 | Shoal No. 41 | 20 | 2 | 2.5. |

From these measurements it will be seen that there are but two places—Sifford's Falls and Sifford's Shoals (miles 125 through miles 127.2) where the

channel, at low water, has minimum widths of from 8 to 10 feet, just enough to permit the passage of boats 8 feet wide. In all of the other natural obstructions the channel was amply wide to permit the passage of such boats. The minimum depths of the channel in these natural obstructions was more than 2 feet, except that at Eggleston Shoals (mile 120.7) it was 1.8 feet, and at Sifford's Falls and Sifford's Shoals (miles 125 through 127. ) it was from 1 to 2 feet. The worst that can be said about the width and depth of the channel at low water in this 56-mile stretch is that some unloading or portage would probably be required at low water at two places.

Thus the natural obstructions in this stretch of the river would not defeat a finding of navigability. In Section 3 (8) of the Federal Power Act, Congress laid down a standard, similar to that judicially evolved, for the application of the general rule that natural obstructions are only evidence of nonnavigability, but do not necessarily establish nonnavigability. According to this standard, (i) none of the natural obstructions in this stretch are relevant, because they do not interrupt the navigable parts; (ii) resolving all doubts against the Government, only two of the natural obstructions may be regarded as interruptions between the navigable parts of the stream; and (iii) none of the natural obstructions marks the end of navigability but at the most merely offer a temporary obstruction to navigation.

4. Again ignoring the channel, the court below relied upon respondent's photographs to establish nonnavigability (R. 2899–2901). These photographs (Vol. IV) were admittedly taken to show the worst places in the river (R. 1700, 1702, 1768, 1835), and many were admittedly taken at a time of extremely low water (R. 2259–60, 1700, 1768, 1775). But they are subject to a still greater vice; since they were taken from the water's edge, they cannot show the channels through the rapids or shoals. In consequence, the photographs of the Allisonia-Radford and the Wiley's Shoals-Hinton stretches (Plates 5–12 and 34–39, respectively, of Vol. IV) seem to show a nonnavigable river equally with the critical stretch between Radford and Wiley's Shoals (Plates 13–33 of Vol. IV).

The real condition as to navigability can, in truth, be determined only from the petitioner's aerial photographs (Vol. III). These give graphic evidence that the river is in fact navigable throughout the contested stretch.[41]

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[41] A detailed comparison of the photographs is fruitful. The photographs of respondent which show the worst places on the Radford-Wiley's Shoals stretches are set off against the corresponding aerial photographs of the Government.

| Vol. V | Vol. III |
|---|---|
| Respondent's Photograph No.: | Aerial Photograph No.: |
| 17–21 Wiley's Falls | 58 Wiley's Falls |
| 26–28 Shumate's Falls | 57 Shumate's Falls |
| 36–44 Peter's Mountain Falls | 54 Peter's Mountain Falls |
| 90–101 Walker Mountain Falls and Sifford's Shoals | 46 Walker Mountain Falls and Sifford's Shoals |

Appendix C, *infra*, pp. 185–195, contains a mile-by-mile index of all photographs.

It thus seems clear that the Radford-Wiley's Shoals stretch is navigable. This conclusion is required whether one looks to the evidence of actual navigation or to the physical characteristics of the river in this section. Since the Allisonia-Radford and Wiley's Shoals-Hinton stretches are navigable, it follows that New River is navigable from Allisonia, Virginia, to Hinton, West Virginia. Since this 111-mile stretch is interstate, it results that the site of respondent's project is in navigable waters of the United States.

### D. THE ALLISONIA-RADFORD STRETCH AS A CHANNEL OF INTERSTATE COMMERCE

There is, finally, still another reason why the site of respondent's project is in navigable waters of the United States. The 28-mile stretch of New River between Allisonia and Radford, as we have shown (*supra*, pp. 35–38), is navigable. Respondent's project is located in this stretch and is, therefore, located in navigable waters of the United States even though the river below Radford were nonnavigable. This is because the Allisonia-Radford stretch was the avenue of an interstate commerce which moved by boat to Radford and was there transshipped in interstate commerce by railroad. The court below considered this contention only theoretical, since there was no present commerce, and unsound in any event, since the United States cannot regulate use of a river (in contrast to

the vessels) unless it affords interstate *water* transportation (R. 2919–20). Judge Parker, on the other hand, said that so long as there be an interstate movement of goods, whether by water or by water and rail, the water is subject to the regulatory jurisdiction of Congress (R. 2935–37).

There will, we think, be no dispute but that a substantial commercial traffic was formerly shipped downstream to Radford and out of the state by railroad (see *supra,* p. 37; see e. g. R. 244). The District Court so found (R. 115) and the court below by plain inference concurred (R. 2902–03, 2919–20). The only question, then, is whether a water-rail movement in interstate commerce is sufficient to make the waters navigable waters of the United States.

Section 3 (8) settles this issue. It declares that navigable waters means "those parts of streams * * * over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States, and which * * * are used or suitable for use for the transportation of persons or property in interstate or foreign commerce". In this broad definition there is no qualification that the transportation be wholly by water; there is simply the requirement that it move in interstate commerce.

This rule represents but a slight extension of the decision in *The Daniel Ball,* 10 Wall. 557. There this Court held a steamer, operating intrastate, subject to the federal navigation laws because her

goods moved in interstate commerce after transshipment over railroad or other vessels. The Court said (p. 565):

> She was employed as an instrument of that commerce; for whenever a commodity has begun to move as an article of trade from one State to another, commerce in that commodity between the States has commenced. The fact that several different and independent agencies are employed in transporting the commodity, some acting entirely in one State, and some acting through two or more States, does in no respect affect the character of the transaction. To the extent in which each agency acts in that transportation, it is subject to the regulation of Congress.

If Congress can regulate the vehicle of such an interstate commerce, by the same token it can regulate the avenue of that commerce; each is an instrumentality of interstate commerce.

On principle, the protection which Congress is authorized to extend over navigable waters must be the same whether they are channels of interstate commerce wholly by water or by water and rail. Admittedly, Congress can and does regulate an interstate waterway or an interstate railroad. Certainly nothing in the Constitution could be said to prevent regulation of an interstate route composed in part of water and in part of railroad. And Section 3 (8) defines navigable waters of the United

States in terms which obviously are broad enough to require this water-rail route for interstate commerce through Radford be included. It follows that the Allisonia-Radford stretch must, even apart from the navigability of the Radford-Hinton stretch, be taken to be navigable waters of the United States.

## II

### RESPONDENT'S PROJECT MUST BE LICENSED BECAUSE IT WILL OBSTRUCT NAVIGABLE CAPACITY AND AFFECT THE INTERESTS OF INTERSTATE COMMERCE

We have shown that New River at the site of respondent's project is navigable water of the United States. But even if that were not so, respondent must nevertheless obtain a license from the Federal Power Commission before its project can be constructed or operated. Without such a license, respondent's project is forbidden: first, by Section 10 of the Rivers and Harbors Act, as an obstruction to the navigable capacity of waters of the United States; and, second, by Section 23 of the Federal Power Act, as affecting the interests of interstate commerce.

#### A. THE OPERATION OF THE PROJECT WILL OBSTRUCT THE NAVIGABLE CAPACITY OF NAVIGABLE WATERS OF THE UNITED STATES.

Section 10 of the Rivers and Harbors Act prohibits the creation of any obstruction to the navigable capacity of any of the navigable waters of the United States unless affirmatively authorized by Congress. *United States* v. *Rio Grande Irrigation*

*Co.*, 174 U. S. 690, 708–709. The respondent's project, we submit, will impair the navigable capacity of New River (between Hinton, West Virginia, and Glen Lyn, Virginia), of the Kanawha River, and of the Ohio River. The respondent does not dispute that the operation of the project will impair the navigable capacity of this section of New River, but denies that this section constitutes navigable water of the United States. Respondent does not dispute that the Kanawha and Ohio Rivers are navigable waters of the United States, but denies that the operation of the project will obstruct their navigable capacity.

The respondent's project will include a reservoir having a usable storage capacity of 100,000 acre-feet; the power plant will have a hydraulic capacity of 9,000 cubic feet per second (R. 1245–47, 2028). This large capacity must be contrasted with the stream flow at that point. On the average, it exceeds 9,000 second-feet for only 12 days a year (R. 94, 551). The average flow is 3,211 second-feet, and is in excess of 3,000 second-feet for only 141 days of each year (R. 94, 551). The average summer flow is 1,810 second-feet, and the average flow during the lowest month is only 1,400 second-feet.[1]

[1] U. S. G. S. Water Supply Papers Nos. 698, 713, 728, 743, 758 (Orig. Ex. 65–83, 85–87). Average summer flow covers the months of July, August, and September of the years 1930–1935, and average flow during the lowest month covers the lowest of these three months for those years (July 1930; September 1931, 1932, and 1933; July 1934; August 1935).

It is apparent that the project cannot be operated continuously at full capacity. Since the project is to be interconnected with other hydroelectric and steam plants in respondent's system, operation on a "peak load basis" is the only feasible means of operation. Respondent's evidence[2] was that its normal week day operation would involve 7½ hours of complete shut-down, and 6 hours when the discharge would be more than 6,000 second-feet, including one hour when the discharge would be 9,000 second-feet.[3] In addition, the plant will be shut down entirely for a period of at least 34 hours over week ends (R. 795–803, 1456–57, 2039). These ir-

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[2] Since the evidence as to the extent to which "peaking" operations would be practiced is in conflict, we shall confine ourselves to respondent's witnesses and evidence.

[3] Defendant's Exhibit 594 (I, 11) shows the following discharges:

| Time: | Second-feet of discharge |
|---|---|
| 12:00– 6:30 A. M. | 0 |
| 6:30– 7:00 A. M. | 600 |
| 7:00– 8:00 A. M. | 2,500 |
| 8:00– 9:00 A. M. | 4,900 |
| 9:00–10:00 A. M. | 7,100 |
| 10:00–11:00 A. M. | 9,000 |
| 11:00–12:00 Noon | 8,100 |
| 12:00– 1:00 P. M. | 6,000 |
| 1:00– 2:00 P. M. | 7,400 |
| 2:00– 3:00 P. M. | 6,200 |
| 3:00– 4:00 P. M. | 2,900 |
| 4:00– 5:00 P. M. | 2,300 |
| 5:00– 7:00 P. M. | 1,000 |
| 7:00– 8:00 P. M. | 3,300 |
| 8:00– 9:00 P. M. | 4,900 |
| 9:00–10:00 P. M. | 3,700 |
| 10:00–11:00 P. M. | 600 |
| 11:00–12:00 | 0 |

regular flows will, of course, produce variations in the stage or level of the water, known as "power waves," in the stream below the dam. They obviously will tend to impair the navigable capacity below; the only question is as to the extent of this impairment.

*1. The Project Will Impair the Navigable Capacity of New River Between Hinton, West Virginia, and Glen Lyn, Virginia*

There is no dispute as to the impairment of the navigable capacity of the section of the river between Hinton, West Virginia, and Glen Lyn, Virginia. New River at the site of the project contributes 70 perecnt of the average summer flow and 72 percent of the average low summer flow at Glen Lyn.[4] The intermittent variations in the flow of the water past the dam will vary the stage of water in the Hinton-Glen Lyn stretch from as much as a foot and a half below to several feet above the normal water level (R. 2468). These variations in water level will completely destroy the navigable capacity of this stretch of the river. This stretch is suitable for navigation of keelboats drawing 2 feet of water. If, during any substantial period, the water depth, which is ordinarily between 2 and 3 feet, is reduced to a depth of 6 inches to 1 foot, it is obvious that the vessels could not be navigated.

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[4] The average summer flow at Glen Lyn is 2,580 second-feet, and the average low summer flow is 1,940 second-feet. Compare the data, *supra*, p. 77, for the flow at the project site. The source of both series of data is given in footnote 1, *supra*, p. 77.

The dispute here relates to the question whether New River is navigable water of the United States. The navigability of this stretch of the river seems beyond controversy (see R. 2937–38). In 1882, the Chief of Engineers reported that four keelboats ran up to Shumate Falls, Virginia, just below Glen Lyn, carrying supplies to the railroads there (R. 2383). Colonel Craighill, at about the same time, reported five keelboats running over the same stretch (R. 2893). The Government improved the channel from Hinton through Wiley's Falls and through Wiley's Shoals (at mile 89.1) and there is a slack water pool from that point to Shumate Falls (I, 2). Some 23 witnesses testified to commercial navigation over the stretch downstream from Glen Lyn and from Shumate Falls.[5]

The majority of the court below, while it minimized this actual navigation, chose rather to emphasize the natural obstructions between Glen Lyn and the West Virginia line; these are Wiley's Falls and Shumate Falls (R. 2909). But Wiley's Falls has an improved channel, and Shumate Falls has a natural channel of 16 to 40 feet wide and 2.1 to 3 feet deep at low water, where the maximum current velocity is 1.9 to 3.5 miles per hour (*supra*, p. 70). In addition, the majority said that there has been no keelboat navigation between Glen Lyn and Hinton for probably 25 years (R. 2909). But

[5] See the graphic inset opposite p. 48, and the table in Appendix B, pp. 178–184.

abandonment of navigation, as this Court has ruled, does not destroy navigability (*supra*, pp. 56–57). And Section 10 of the Rivers and Harbors Act forbids the creation of an obstruction "to the navigable capacity" of waters of the United States, not simply of an obstruction to existing navigation. See *United States* v. *Rio Grande Irrigation Co.*, 174 U. S. 690.*

It follows that, since the operation of the project will impair the navigable capacity of an interstate navigable stream, a license from the Federal Power Commission is required. The succeeding sections of this part of the brief show that the same result is required if attention is directed to rather broader considerations than the Glen Lyn-Hinton stretch.

*2. The Project Will Impair the Navigable Capacity of the Kanawha and Ohio Rivers*

(a) *The undisputed evidence.*—Whatever may be the case during periods of normal flow, there can be little doubt as to the impairment of the navigable capacity of the Kanawha and Ohio rivers during the critical low-water periods. The undisputed

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* There this Court said (p. 708), of the similar Section 10 of the Act of September 19, 1899, c. 907, 26 Stat. 426, 454: "The language is general, and must be given full scope. It is not a prohibition of any obstruction to the navigation, but any obstruction to the navigable capacity, and anything, wherever done or however done, within the limits of the jurisdiction of the United States which tends to destroy the navigable capacity of one of the navigable waters of the United States, is within the terms of the prohibition. * * *"

evidence shows that during such periods New River at the site of respondent's project contributes as much as 70 percent of the flow of the Kanawha (R. 564), and as much as 38 percent of the flow of the Ohio River just below the mouth of the Kanawha (R. 559, 1421). These critical low-water periods are not infrequent, nor are they of very short duration.[1]

During dry periods the highly improved Kanawha is dependent principally on the flow of New River at the site of respondent's project, and the Ohio below the mouth of the Kanawha is dependent in a very substantial degree upon the same source. The Army Engineers have experienced great difficulty in maintaining the project depths for navigation on the Ohio during low-water periods. (R. 737–43, 1083–85, 1129, 1254). These conditions would be greatly aggravated if as much as 38 percent of the flow of the Ohio were shut off, as it will be for periods of at least 34 hours over week ends in the unregulated operation of respondent's project (*supra*, p. 78). In such cir-

[1] For example, during a 119-day period in 1930, 22.5 percent of the flow of the Ohio immediately below the mouth of the Kanawha came from New River at the site of respondent's project (R. 562, 1425). Likewise, during the 8-day period between August 24 and August 31, 1918, the average flow of the Ohio immediately below the Kanawha was 5,945 second-feet (R. 1421) and the average flow of New River at respondent's dam site was 2,260 second-feet (R. 559), or 38 per cent.

cumstances, navigation on the Ohio will plainly be interfered with. Artificial manipulation of New River flows at Radford, similarly, will seriously affect channel depths and current velocities in the Kanawha at times when its flow is substantially below the yearly average, and when the entire flow of New River is necessary for navigation. At such times, abstracting from 50 to 70 percent of the flow of the Kanawha for a week end will necessarily mean substantial diminution in the navigable capacity of the river.

Moreover, the intermittent variations in the water flow past the dam will produce "power waves," or variations in the water stages downstream. How large the power waves will be, and how far they will persist downstream, can be estimated by a comparison with the wave tests conducted in 1930. These tests were made by releasing various flows from respondent's Buck and Byllesby Dams near Ivanhoe (mile 194) and observing the persistence of the waves at various points on New River and the Kanawha River. Exhibit 227 (I, 12) shows the results of these wave tests, as the waves passed the gages located on the river at Ivanhoe, Radford, Hinton, and Lock No. 2.[8] All of the 18 test waves, as shown on this exhibit, persisted to a varying degree from

[8] Lock No. 2 was 10.7 miles below Kanawha Falls and 207 miles from the Buck plant; respondent's project is only 155 miles from the head of Kanawha navigation.

the Buck plant down to Lock No. 2. According to respondent's expert witness, the approximate average amplitude, or change in water level, of the 18 waves was 5 feet 3 inches at Ivanhoe and had been reduced to an average amplitude of 5 inches at Lock No. 2 (R. 2055).

According to testimony for the respondent, the wave tests from Ivanhoe to Hinton would be comparable with the travel of waves from respondent's project to Kanawha Falls (R. 1938). The 1930 waves persisted at Hinton from 10 to 48 percent in amplitude, and from 33 to 49½ percent in volume (R. 2501). According to respondent's testimony, the persistence of waves from respondent's project at Radford to Lock No. 2 on the Kanawha would be from 10½ to 45 percent in amplitude and from 15 to 51 percent in volume (R. 1934–35). The 5-inch estimate is, accordingly, considerably too low as applied to power waves originating at Radford. Moreover, it should be noted that the Buck and Byllesby Reservoirs used in making the tests had a combined storage capacity of 2,900 acre-feet (Ex. 544), about 3 percent of the usable capacity of the reservoir of the Radford project. It was suggested by respondent's witness (R. 2094–95) that the waves released from these two reservoirs were not comparable in size with the waves which would come from the Radford project under peak-load operations. However, it is sufficient if we suppose that the variations in water level on the Kanawha caused by the intermittent variation in

the water flow past respondent's project will be no greater than those shown in the 1930 wave tests, or 5 inches on the Kanawha.

This variation in the depth available for navigation on the Kanawha will constitute an interference with the navigable capacity of the stream. The reason is that barges like those operated on the Kanawha are usually loaded to capacity when navigable depths permit, and a variation of as little as 5 inches will mean that the barges must load at less than full capacity or be grounded (R. 2139–40, 2178–79).[9]

The courts below did not dispute these facts but ruled, first, that the power waves produced by the operation of the Radford project will be rectified by the existing and proposed dams; and, second, that respondent does not intend so to operate the project as to impair navigable capacity (R. 128–33, 2904–08). We submit that the ruling is erroneous as a matter of law.

(*b*) *The compensatory effect of downstream dams.*—These dams are: (1) the London, Marmet, and Winfield locks and dams on the Kanawha River, constructed and operated by the Govern-

[9] The standard barge in use on the Kanawha is 26 feet wide and 135 feet long (R. 1088–89 and Ex. 145, p. 38). Six barges usually constitute a tow (R. 1089). The principal item of commerce is coal (R. 1089). A reduction of one-half foot in navigable depth would necessitate lessening the load by as much as 360 tons of coal per tow, or more than 50 tons per barge. (The amount of coal added to a tow to obtain a certain increase in draft is equivalent to the amount of water, 62.4 lbs. per cu. ft., displaced by the tow.)

ment (R. 2690); (2) the Kanawha Falls dam of the Electro-Metallurgical Company;[10] (3) the Hawk's Nest dam 6 miles above the mouth of New River, constructed by the Electro-Metallurgical Company, and (4) the proposed Bluestone dam to be built by the Government two miles above Hinton.[11] It was supposed by the court below that these dams can be so operated as largely to compensate for any fluctuation in the water flow which respondent's project is apt to cause.

But the argument that their construction takes respondent out of the jurisdiction of the Commission is not tenable. Its premise must be that the work done or authorized by the Federal Government, for the improvement of navigation together with other purposes, serves to oust its jurisdiction to protect navigable capacity. But plainly the United States does not lose control of the river by virtue of improving it.

A consequence of the respondent's reliance upon downstream dams, if the argument were accepted, must be that one upstream dam is barred from the regulatory jurisdiction of the Federal Government

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[10] This dam is constructed and operated under a War Department permit.

[11] This dam will be considerably the largest on the river; it will rise 150 feet and will have a usable storage capacity of 245,000 acre-feet (R. 1367–68).

It may be noted that the allusion of the court below to the fact that it is not to have locks (R. 2907) is misleading, since a barge-lift is to be provided (R. 1349–50; Ex. 200A, B, C).

because its effects can be absorbed, but that several dams, the cumulative effects of which might not be absorbed, are not exempted. And, one may well wonder, which of the several dams in the last example would be considered exempt and which would be subject to the Commission's jurisdiction.

Moreover, as Judge Parker pointed out, the downstream dams might be removed (R. 2937–38). Or, if not removed, their operation might be abandoned or radically altered.

Plainly enough, the effect of the respondent's project upon navigable capacity must be considered in the light of the stream in its natural condition and without regard to its modification by downstream dams.[12]

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[12] Respondent (Br. in Opp. 19), and the courts below (R. 128, 2906–07), have each emphasized that the Government has installed power equipment in its Kanawha dams and permits hydroelectric development by its private lessee. If power development is permissible in the Kanawha itself, the argument runs, *a fortiori* it must be permissible at the site of respondent's project. But the Kanawha power developments aptly illustrate the need of federal control by which to reconcile the conflicting demands of navigation and power development. The Federal Power Commission license reserves full power in the District Engineer of the War Department to regulate the rate of discharge of water to prevent impairment of navigability by the operation of hydroelectric plants (by respondent's affiliate) (Ex. 191, Art. 16, R. 1256). Yet even the limited tolerance allowed the power lessee has been the subject of numerous complaints by navigators who have grounded their vessels during low flow periods (R. 2138–42, 2195–97).

(c) *Respondent's intended method of operation.*—The question of respondent's intended or probable method of operation of its project is, we think, irrelevant to the jurisdiction of the Commission to require a license. Section 10 of the Rivers and Harbors Act does not contemplate exemption of those who can show an intention not to impair navigable capacity. In the first place the protection of navigable capacity is not to be left to the uncontrolled decisions of project operators. In the second place, none can be sure that the economic and technological circumstances will not become so changed that a different means of operation will be desired by the licensee. Little can be added to the statement of Judge Parker (R. 2938–39):

> the fact that the structure is of such character that it is capable of being operated so as to affect navigation brings it within the regulatory power of Congress. It is clear that, in such case, the government need not depend upon the wisdom or public spirit of private persons to protect the interests of navigation but may itself take action which will guarantee their protection.

B. THE UNLICENSED CONSTRUCTION AND OPERATION OF RESPONDENT'S PROJECT IS IN VIOLATION OF SECTION 23 OF THE FEDERAL POWER ACT

If, as we have shown, the respondent's project will impair the navigable capacity of navigable waters of the United States, then the construction, maintenance, and operation of the project is not

only in violation of Section 10 of the Rivers and Harbors Act, but also of Section 23 of the Federal Power Act, for the "impairment of navigable capacity" forbidden by the former Act is also an effect on "the interests of interstate * * * commerce" within the meaning of the latter provision. But Section 23 will apply even though the interests of interstate commerce are affected otherwise than by impairment of downstream navigable capacity.

*1. Preliminary Questions of Construction*

(*a*) *The section applies to nonnavigable waters.*— In the lower courts respondent argued that, if New River at the site of the project is not navigable waters of the United States, no license can be required, whatever the effect upon downstream navigable capacity and whatever the effect upon interests of interstate commerce. Under this contention, Section 23 of the Federal Water Power Act of 1920 merely provided a procedure by which one could determine in advance of construction whether the stream was navigable water of the United States.[13]

This is an untenable construction of Section 23, either as it read in 1920 or as amended in 1935. A

[13] While the District Court agreed with respondent (R. 143–8), the court below expressly rejected this extreme position (R. 2196–98).

comparative print[14] of the relevant parts of the section reads:

> Any person * * * intending to construct a dam * * * in any stream * * * other than those defined herein as navigable waters, and over which Congress has jurisdiction under its authority to regulate commerce * * * [may in their discretion] *shall before such construction* file declaration of such intention with the Commission, * * * and if upon investigation it shall find that the interests of interstate or foreign commerce would be affected by such proposed construction, such person * * * shall not [proceed with such construction] *construct, maintain, or operate such dam or other project works* until it shall have applied for * * * a license under the provisions of this Act. * * *

Words could not be clearer that Section 23 applies to the construction of dams in streams "other than * * * navigable waters," and that a license under Section 23 is required, not if the Commission finds that Section 23 is inapplicable because the stream is navigable, but if it finds that "the inter-

[14] The 1935 amendments added the italicized words and deleted those in brackets. A comparative print of the entire section is found in the Appendix to the petition for a writ of certiorari, pp. 36–37.

ests of interstate or foreign commerce would be affected by such proposed construction."[15]

(*b*) *The 1935 amendments apply.*—The court below suggested that the 1935 amendments might be inapplicable because enacted after this suit was commenced [16] and a year after construction of the project began (R. 2916). But the 1935 amendments, if they have any effect relevant here, simply

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[15] The Committee reports on the 1935 amendments show the understanding of Congress with unmistakable clarity. The Senate report (No. 621, 74th Cong., 1st Sess., p. 47) said:

"Under the present provision anyone intending to undertake a project *on a nonnavigable tributary of a navigable stream* may in his discretion file such a declaration with the Commission. If the Commission finds that the interests of interstate commerce would be affected by the project, it is made unlawful to proceed without having secured a license. This provision is changed to make the filing of a declaration of intention mandatory in such cases. * * *" (Italics added.)

The House report (No. 1318, 74th Cong., 1st Sess., p. 26) said:

"Furthermore, the provision making discretionary the filing of applications for preliminary permits for the construction of projects *in the nonnavigable tributaries of navigable streams* is changed to make such applications mandatory. In this way, every person intending to construct a project which might affect navigation would be required to come to the Commission for a determination of the interests of the United States. This would greatly strengthen the act by enabling the Commission to maintain control over *all projects with which the Federal Government has any valid concern.* * * *" (Italics added.)

[16] The Federal Power Act of 1935 was approved on August 26, 1935. The bill of complaint in this case was filed

clarified the proper construction of the 1920 Act.

The license, whether under the 1920 or the 1935 language, is required, if the Commission "upon investigation * * * shall find that the interests of interstate or foreign commerce would be affected by such proposed construction." The 1935 amendments removed the anomaly by which a project operator might voluntarily bring himself within the jurisdiction of the Commission,[17] but left unchanged the Commission's powers after the declaration of intention was filed. Since respondent did in fact file a declaration of intention, it is a matter of no consequence whether its case be governed by the 1920 or the 1935 language.[18]

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on May 6, 1935 (R. 4); the answer on June 7, 1935 (R. 38). Trial commenced on July 13, 1936.

[17] A hypothetical project might not obstruct navigable capacity under Section 10 of the Rivers and Harbors Act, yet affect the interests of interstate commerce under Section 23. Prior to 1935 a Commission license would be required only if the operator chose to file a declaration of intention. One may suppose that Congress then believed the severity of the sanctions against violation of the Rivers and Harbors Act would be sufficient to drive to the Commission those who should be licensed under Section 23.

[18] In any event, the rule is settled that litigation, particularly in a suit for injunction which operates *in futuro*, must be decided under the law at the time of the decree. *United States* v. *The Schooner Peggy*, 1 Cranch 103, 110; *Pennsylvania* v. *Wheeling & Belmont Bridge Co.*, 18 How. 421, 430, 431; *Duplex Co.* v. *Deering*, 254 U. S. 443, 464; *Smith* v. *Illinois Bell Telephone Co.*, 282 U. S. 133, 142–143,

*2. Section 23 Applies Even Though the Effect on Navigable Capacity Be Beneficial Rather Than Adverse*

(*a*) *The project will have at least a beneficial effect.*—While the respondent variously denied that the project will impair navigable capacity downstream, it did not deny, but on the contrary urged, that the project will have a beneficial effect on navigable capacity below. In its application for license the respondent maintained that the project "will tend to equalize seasonal variations to increase the minimum flow during low-water periods and reduce flood peaks below the project" (R. 2478). Its declaration of intention to construct this project stated that "the effect of the proposed project * * * will, in general, be beneficial" (R. 2637). Respondent urged in the court below (Br. 53), that the "project will at all times increase the average low-water flow below the dam site and in extreme dry years will increase it from a minimum of 600 second-feet to 1,230 second-feet, with substantial benefit to navigation as well as to power interests downstream."

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161–162; *Abie State Bank* v. *Bryan*, 282 U. S. 765, 782; *Carpenter* v. *Wabash Ry. Co.*, No. 230, this Term, decided January 29, 1940. The respondent can hardly complain of a retroactive operation because it chose to proceed with the unlicensed construction of its project while the Commission was vigorously asserting that a license was necessary, particularly since the actual construction prior to the passage of the 1935 Act was negligible.

The Army engineers are of the same view. In his report of August 20, 1925 (Ex. 92, R. 2521), General Taylor stated that "proper regulation of the flow of the river would naturally be of benefit to navigation" and set forth the conditions which should be inserted in the license in order to protect the interests of interstate or foreign commerce.[19] The District Engineer, in his report on respondent's application for license, agreed (Ex. 98, R. 2551–52). The "308" report of the War Department is to the same effect.[20]

The Government does not dispute that the project, if properly regulated, will benefit navigation. It submits, however, that since that is so, Section 23 (b) of the Federal Power Act requires that the project be licensed.

(*b*) *Section 23 applies if the project will have a beneficial effect.* The court below assumed, with-

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[19] His second report of December 29, 1925 (Ex. 97, R. 2527–32), General Taylor did not discuss any beneficial effect of the project, if regulated, upon navigation below.

[20] It states (Ex. 145, R. 2678–79, 2682):

"Reservoirs on the New River for power and control of flood waters can be operated to afford some beneficial effect on navigation on the main stem of the Kanawha and on the Ohio, and will reduce the heights of destructive floods on these streams. * * * Under effective and unified control these reservoirs can be operated to reduce the height of destructive floods on the Kanawha and Ohio Rivers to benefit navigation by reducing flash floods from these tributaries and to increase the low-water flow of the river in the interest of sanitation and navigation."

out analysis of this issue, that Section 23 was applicable only if the project would obstruct, impair, or adversely affect the navigable capacity (R. 2904–08, 2916–19, 2921–22). We submit that this construction unwarrantedly narrows the plain scope of Section 23.

1. Section 10 of the Rivers and Harbors Act forbids "the creation of any obstruction * * * to the navigable capacity of any of the waters of the United States". Section 23 of the Federal Power Act, on the other hand, is markedly broader in its terms. A license from the Commission is required for a project on a nonnavigable stream "if upon investigation it shall find that the interests of interstate or foreign commerce would be affected by such proposed construction." The contrast in terminology is unmistakable and compels the conclusion that Section 23 is applicable so long as there be *any* effect upon navigable capacity, whether it be adverse or beneficial.

The evident meaning of the statutory language is confirmed by its history. It appeared in the original Section 23 of the Federal Water Power Act of 1920, and was introduced by the Senate Committee on Commerce after the bill had passed the House.[21] The House bill provided for a license

[21] The language was not used, so far as we can determine, in any of the many bills which preceded that which was enacted as the Federal Water Power Act of 1920.

if the Commission found that the project would improve or develop an interstate waterway.[22] Under its terms a license would be required if the project would improve downstream navigable capacity but not if it would impair it (the project owner taking his chances on removal proceedings under Section 10 of the Rivers and Harbors Act). The plain purpose of the Senate amendment, substituting the inclusive term "affect the interests of interstate * * * commerce," was to require a license in either case.[23]

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[22] This part of the section as passed by the House read (Sen. Rep. No. 180, 66th Cong., 1st Sess., p. 19):

"As to all streams or parts of streams, other than streams the use of which is herein authorized to be licensed, over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States, permission is hereby given to construct dams therein: *Provided*, That any applicant who proposes to construct a dam in any such last mentioned stream or part of stream may at his option make application to the commission, *and if the contemplated improvement is, in the judgment of the commission, desirable and justified in the public interest for the purpose of improving or developing a waterway or waterways for the use or benefit of navigation in interstate or foreign commerce*, the applicant may receive a license under the conditions with all of the rights and privileges herein provided for streams or parts of streams used for the transportation of persons or property in interstate or foreign commerce in their ordinary, natural, or improved condition." (Italics added.)

[23] The report of the Senate Committee (*supra*, note 22) does not explain the change; the Conference report, in this regard simply paraphrases the statutory language (H. Rep. No. 910, 66th Cong., 2d Sess., p. 13). We have found no relevant discussion of this amendment in the debates.

In 1935 Section 23 was amended to make filing a declaration of intention compulsory. The Congressional committees seem to have entertained no doubt as to the correct interpretation of Section 23, either before or after its amendment.[24] And the prompt elimination of an amendment to Section 23, that it require a license only when "the interests of interstate or foreign commerce would be *directly* affected *or burdened* by such proposed construction," shows clearly the intent of Congress that *any* effect, whether beneficial or adverse, is sufficient to ground the Commission's jurisdiction.[25]

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[24] The Senate Committee said (Sen. Rep. No. 621, 74th Cong., 1st Sess., p. 47):

"* * * Under this subsection with the two amendments here made every person intending to construct a project *which might conceivably affect any navigable waters* would be under the duty of coming to the Commission. The act would be greatly strengthened by enabling the Commission to preserve control over all projects with which the Federal Government has any valid concern." (Italics added.)

The House Committee said (H. Rep. No. 1318, 74th Cong., 1st Sess., p. 26):

"* * * In this way, every person intending to construct a project which might affect navigation would be required to come to the Commission for a determination of the interests of the United States. This would greatly strengthen the act by enabling the Commission to maintain control over all projects with which the Federal Government has any valid concern. * * *"

[25] The 1935 amendments were Title II of the Public Utility Act of 1935. The bill (S. 2796) was reported by the Senate Committee with Section 23, so far as here relevant, in its form as enacted. The addition of the italicized words

The interpretation of Section 23, adopted in the court below leads to absurd consequences. Section 10 of the Rivers and Harbors Act forbids the creation of any obstruction to downstream navigable capacity. Yet, according to the court below, the Commission is to investigate and if it finds that construction of the project would violate Section 10, it shall then issue a license. Obviously, however, if navigable capacity will be substantially impaired the Commission should ordinarily forbid the construction altogether. On any proper interpretation, the license quite plainly is to be issued only if the project while affecting navigable capacity is not unduly obstructive of that capacity; in other words, if the interests of water power development and navigation can be reconciled. This ordinarily will be the case where navigable capacity is improved by the project, but rarely if ever when it is substantially impaired.

2. One need not seek far to find the reasons which led Congress to include, as the condition to the Commission's jurisdiction, *any* effect, beneficial as well

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quoted in the text was made on the floor of the Senate, on motion of Senator Pittman who announced the change as necessary to implement an amendment permitting states or municipalities to use water and power at a Government dam without permission of the Commission. The amendment was agreed to without objection. 79 Cong. Rec. 9053. The House Committee, without explanation, eliminated the italicized words. H. Rep. No. 1318, 74th Cong., 1st Sess., p. 42. The Senate accepted the House version, 79 Cong. Rec. 14473, without debate on this feature.

as adverse, upon navigable capacity.[26] When a project produces a beneficial effect on navigable capacity, for example, by increasing the navigable depths, such beneficial effect must be sustained, otherwise considerable harm to navigation may result. If a stream is suitable for transportation by boats drawing 6 feet of water and the navigable depth is increased to 7 feet, there is an immediate tendency to load the boats for 7-foot of navigation. If the 7-foot depths are not sustained, then the boats loaded to capacity will ground, and there will be an interference with interstate navigation. Thus continuance of a beneficial effect on navigation produced by the operation of the project may well require regulation, which, Congress has provided, shall be by means of a license under the Federal Power Act.

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[26] This, it may be observed, was the view taken by respondent's predecessor, Appalachian Power Company, in its protest filed with the Federal Power Commission against the granting of a preliminary permit to the Eastern States Development Company for project No. 575, on New River (Ex. 247; R. 2749). There it stated; "Where the proposed project *beneficially affects such lower navigable capacity and thus the interests of interstate or foreign commerce, jurisdiction is conferred* upon the Commission (Section 4 (d) Federal Water Act). Works *injuriously* affecting the interests of interstate or foreign commerce (with respect to navigable capacity of navigable waters) are prohibited by the Act of March 3, 1899, Ch. 425, Section 10 (30 Stat. at L. 1151), and may be enjoined at the instance of the United States (see Opinion, Supra). It is within the latter class that this protestant contends the proposed diversion works fall."

This requirement of Government control in order to sustain a beneficial effect on interstate commerce is not peculiar to navigation. The same principle obtains generally. The regulation of railroads offers a close analogy. True, by the construction of an interstate railroad, interstate commerce is benefited, but that has never been a reason for arguing that, because the effect on interstate commerce is beneficial rather than adverse, interstate carriers should not come within the purview of the Interstate Commerce Act. The regulation is necessary so that the beneficial effect on interstate commerce should be sustained and enhanced.

The effect of the respondent's project, in short, will be beneficial or adverse according to the manner of operation. The project should be licensed because of the adverse effect on navigable capacity below; but, even if we should be wrong as to this, respondent's own evidence that the project will have a beneficial effect on navigable capacity below means that the project must be licensed under Section 23 of the Federal Power Act.

3. Respondent, as we have indicated, does not deny that its project will have, or could be so operated as to produce, a beneficial effect upon navigation; instead it suggests that this question may not be raised because the complaint charges only that the project will impair the navigable capacity. (Br. in Opp. 20.) But in five separate portions of the complaint, petitioner alleged facts or urged con-

tentions which implied an effect upon the interests of interstate commerce, as opposed to an impairment of navigable capacity.[27] The corresponding suggestion as to the argument in the court below is also wrong; the Government explicitly argued that, if licensed, respondent's project would produce a beneficial effect (Supp. Br. 118–121).

*3. The Project Will Affect the Flood Control Plans for the Ohio Valley*

The respondent's project will also affect the interests of interstate commerce through its effect upon the flood-control plans for the Ohio Valley.

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[27] The bill states (R. 11–12, 16–18) (with italics added here):

"* * * the defendant *will be in a position to affect*, and at times to prevent any navigation. * * *"

"Said fluctuations so caused *will alter and modify the condition and capacity of the channel* of New and Kanawha Rivers * * * and will at times cause and create shoal places in said New and Kanawha Rivers. * * *"

"Said Act requires the working out by the Federal Power Commission of comprehensive plans for the improvement of such river systems providing for coordination of navigation, with water power and other beneficial uses; * * *"

"Insofar as the operation of the said Radford project shall be intermittent or inconstant and *not synchronized with other projects and developments* under the control of this plaintiff, it will interfere with existent and prospective commerce. * * *"

"The defendant is interfering with and obstructing the plans of the plaintiff for the development and protection of the natural resources of the Nation and *will prevent future development by the plaintiff in accordance with plans now formulated and to be formulated.* * * *"

The District Court rejected this basis for the Commission's jurisdiction because it conceived the United States to be without power to regulate in aid of flood control alone [28] and because the project would in fact be helpful for flood control (R. 133). The court below rested on the latter ground alone and seems definitely to have rejected the constitutional doubts of the District Court.[29] But, whether the project will be operated so as to benefit or to impede the flood-control program, the Federal Power Act contemplates use of the required license to ensure protection of the interests of flood control, and those interests cannot adequately be protected against or promoted by respondents' project unless it is subject to federal regulation.

(*a*) *Section 23 Applies if the Project Affects the Interests of Flood Control.* Section 23 of the Federal Power Act requires that a project in a nonnavigable stream be licensed if the Commission

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[28] It is unnecessary to develop the scope of the Government's power in respect to flood control (see brief in support of the return to the rule to show cause in *Oklahoma* v. *Woodring*, Original, No. ——, this Term, pp. 59–62), for the flood-control program will be shown to be an integral part of protecting navigation and navigable capacity (*infra*, pp. 106–12).

[29] It said (R. 2909):

"* * * The district judge considered and rejected this contention as based on insufficient evidence, and we find no good reason to reach a contrary conclusion. It would seem the Radford Dam would be a help rather than a hindrance in this respect; and if not an injunction may later be appropriate."

finds "that the interests of interstate or foreign commerce would be affected by such proposed construction". This is far broader than the comparable provision in Section 10 of the Rivers and Harbors Act which forbids "the creation of any obstruction * * * to the navigable capacity of any of the waters of the United States". It is unnecessary for the purposes of this case to determine the full scope of Section 23, or whether "the interests of interstate or foreign commerce" embrace matters unconnected with navigation and waterways.[80] For flood control seems obviously to be within the broad language of Section 23, as shown both by other provisions of the Act and by its intimate relationship to the problems of navigation and waterways.

Section 10 (a) of the Federal Power Act requires that licenses be issued only upon condition—

> That the project adopted, including the maps, plans, and specifications, shall be such as in the judgment of the Commission will be best adapted to *a comprehensive plan* for improving or developing a waterway or waterways *for the use or benefit of interstate or foreign commerce,* for the improvement and utilization of water-power development,

[80] The Government so urged in the lower courts, which rejected the contention (R. 143–9, 2917–19). We think the ruling erroneous but this is immaterial here because, as we shall show, flood control plainly relates to navigation as well as to other interests of interstate commerce.

> *and for other beneficial public uses,* including recreational purposes; and if necessary in order to secure such plan the Commission shall have authority to require the modification of any project and of the plans and specifications of the project works before approval. [Italics added.]

Certainly, so long as the interests of interstate commerce are affected by means of a waterway, Section 10 (a) looks to their full protection. And flood control is indisputably a "beneficial public use" of an improved or developed waterway. If there were doubt, Section 10 (c) by providing for Commission regulations "for the protection of life, health, and property" would be specific authority for flood-control regulations. Since the Commission is authorized to promote the interests of flood control under Section 10, the interests of interstate commerce referred to in Section 23 must include those relating to flood control.[31]

More largely, even if one were sedulously to substitute throughout the Act the requirement that the project affect the interests of navigation rather

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[31] One of the provisions in the license tendered respondent (R. 2670) was:

"ARTICLE 14. The operations of the Licensee so far as they affect the use, storage, and discharge from storage of waters affected by the New River shall at all times be controlled by such reasonable rules and regulations as the Secretary of War may prescribe in the interests of navigation and as the Federal Power Commission may prescribe in the interests of flood control and of the fullest practicable use of said waters for power purposes."

than those of interstate commerce, Section 23 would yet include flood control as a ground of Commission jurisdiction. For flood control and navigation are inextricably linked; there cannot be safe navigation, or adequate navigable capacity, if it is subject to the ravages of uncontrolled floods.

The effect of flood waters upon navigation has been determined by Congress. Section 1 of the Flood Control Act of 1936 (c. 688, 49 Stat. 1570) declares that "It is hereby recognized that destructive floods upon the rivers of the United States, * * * impairing and obstructing navigation, * * * constitute a menace to national welfare".[32]

Finally, the effect of flood waters upon the Government's navigation improvements must be borne

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[32] The entire section deserves notice. It reads:

"It is hereby recognized that destructive floods upon the rivers of the United States, upsetting orderly processes and causing loss of life and property, including the erosion of lands, and impairing and obstructing navigation, highways, railroads, and other channels of commerce between the States, constitute a menace to national welfare; that it is the sense of Congress that flood control on navigable waters or their tributaries is a proper activity of the Federal Government in cooperation with States, their political subdivisions, and localities thereof; that investigations and improvements of rivers and other waterways, including watersheds thereof, for flood-control purposes are in the interest of the general welfare; that the Federal Government should improve or participate in the improvement of navigable waters or their tributaries, including watersheds thereof, for flood-control purposes if the benefits to whomsoever they may accrue are in excess of the estimated costs, and if the lives and social security of people are otherwise adversely affected."

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in mind. On the Ohio River, the United States has an investment of $206,000,000 in navigation improvements; and one of $32,000,000 on the Kanawha.[34] A destructive flood, by damaging terminal and other structures, washing banks, silting, and the like, can go far to jeopardize this great improvement upon which a large commercial traffic depends.

(*b*) *The Ohio Valley Flood Control Program.*—The annual floods on the Ohio have long since become a matter of national concern. After the 1913 flood, which caused damage in excess of $200,000,000, the construction of flood control reservoirs and local flood protection works was recommended as the best solution for the Ohio River flood problems.[35] It is improbable that flood control reservoirs could be constructed on the main stem of the Ohio River, because of the urban and industrial developments along the banks of the river. In 1935, therefore, the Chief of Engineers recommended[36] that the floods on the Ohio be controlled by means of dams and reservoirs on the tributaries of the Ohio. He submitted a plan for the construction of 39 dams located on the tributaries above Cincinnati; they were to provide 6,773,600 acre-feet of

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[34] These figures are set forth in the Annual Report of the Chief of Engineers, U. S. Army (1939), Part I, Vol. 2, pp. 1362, 1367, 1423.

[35] Horton and Jackson, *Ohio Valley Flood of March-April*, 1913, pp. 44–45, 85–86, 90.

[36] H. Doc. No. 306, 74th Cong., 1st Sess., pp. 3, 6, 11, and 38.

storage at a total cost of $211,000,000. Of these 39 reservoirs, 19 were to have storage capacities of less than 100,000 acre-feet, and ranging down to as low as 30,200 acre-feet.[37] These reservoirs, it was estimated, would reduce floods at Cincinnati and above by about 7 feet, while at some points and in some floods the reductions would be as much as 9 to 10 feet. The Flood Control Act of 1936 authorized the construction of a number of additional reservoirs, including 3 reservoirs on the New and Kanawha Rivers or their tributaries (the Big Bend, the Bluestone, and the Clendennen), as means for the control of floods on the Ohio.[38] After the 1937 flood, which caused damage in excess of $400,000,000 and greatly accentuated the necessity for the Ohio flood control program, the Army Engineers recommended the construction of 45 additional reservoirs on the tributaries of the Ohio to provide an aggregate storage of 11,261,000 acre-feet at a cost of $245,000,000.[39]

Congress then passed the Flood Control Acts of 1937 and 1938 (c. 877, 50 Stat. 876; c. 795, 52 Stat.

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[37] This precludes any suggestion that a reservoir with gross capacity of 206,000 acre-feet and usable capacity of 100,000 acre-feet (R. 1245), like that of respondent's project, is too small to constitute a substantial factor in flood control.

[38] See H. Flood Control Com. Doc. No. 1, 75th Cong., 1st Sess., pp. 1–6, 12, and map opposite page 12.

[39] See Hearings before the Committee on Flood Control, H. R., 75th Cong., 1st Sess., June 1937, pp. 2–7, 16, 20, 23, 26, 28, 30–31, 39–40, 91–92.

1215), and the flood control program for the Ohio River Valley now entails the construction of 74 reservoirs and approximately 130 local protective works, with a total estimated cost of $640,000,000.[40]

Thus, the creation of a system of tributary reservoirs is the back-log of the Ohio River flood-control program. We do not suppose that any court is authorized to go behind the Congressional judgment that this is the best way to solve that gigantic problem;[41] certainly neither court below questioned the value of tributary reservoirs but simply denied that a Commission license was required on the ground that respondent's project would aid rather than harm the control of floods. The only remaining question, then, is whether the supposed beneficial effect of respondent's project—as compared

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[40] See Hearings before the Committee on Flood Control, H. R. 75th Cong., 1st Sess., June 1937, pp. 2–8, and H. Doc. No. 306, 74th Cong., 1st Sess., p. 11.

[41] The Annual Reports of the Tennessee Valley Authority show that the storage and retention of water in reservoirs during flood periods is an important factor in flood control and in the reduction of flood hazards. The Norris Dam reduced the 1936 flood on the Tennessee at Chattanooga by as much as 4 feet (1938 Report, pp. 14–15), and the Tennessee Valley Authority dams reduced substantially the water stages in the Tennessee, Ohio, and Mississippi Rivers in the 1936–1937 floods (*id.*, pp. 16–17). See also the 1939 Report, pp. 2, 8.

See, also, the brief in support of the response to the rule to show cause in *Oklahoma* v. *Woodring*, No. ——, Orig., this Term, pp. 19–25; and the supplemental brief for the petitioner in *United States* v. *Sponenbarger*, No. 72, this Term, pp. 9–11.

with no dam at all—is sufficient to take it out of the Commission's jurisdiction.

(c) *The Effect of Respondent's Project Upon the Flood Control Program.*—We have shown that, even if respondent's project had an unreservedly beneficial effect upon the interests of interstate commerce, Section 23 would yet require a Commission license (*supra*, pp. 94–101). But, in fact, as Judge Parker noted (R. 2938–39), whether the effect of the project on flood control on the Kanawha and Ohio rivers is beneficial or adverse, and the extent of any benefit, will depend wholly upon whether respondent is subject to the jurisdiction of the Commission, whether it is operated as an isolated power reservoir or also as a part of an integrated flood control system.[42]

No one reservoir can by itself substantially reduce flood hazards. If and when constructed,[43] even the Bluestone Reservoir, which is planned to have a flood storage capacity several times as large as the power storage at respondent's project, will

[42] There will be a double necessity for conscious efforts to aid flood control, since the effect of the reservoir if kept full would be to increase flood stages. This is because the full reservoir eliminates the "valley storage" of flood water which would otherwise occur as the river rose in depth; it was estimated, very roughly, that some 50,000 acre-feet would be lost if respondent's reservoir were full at the time of flood (R. 986–90, 1259).

[43] The construction of this dam and reservoir has been delayed for a number of years, it may be noted, by reason of the fact that respondent's subsidiary, the West Virginia

not be sufficient by itself to control the floods of the Ohio, or even to eliminate the damage on the Kanawha caused by the flood waters of New River.[44] The success of a flood control program depends entirely on the coordinated operation of a large number of reservoirs—the timing of retention and release of flood waters. If the reservoirs are properly integrated, flood flows may be retarded at one place until the crest has passed at another place, thus preventing synchronization of the flows which produce the extreme flood stages. Each of the reservoirs on the tributaries of the Ohio thus plays its part in the functioning of the coordinated reservoir system, but the whole effect of any one project cannot be ascertained apart from its role as a part of a system.

Even if respondent's probable operation of the project were such as would be likely to fit into the

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Power Company, as owner of lands sought to be acquired in the condemnation proceeding, demurred to the Government's petition for condemnation. This demurrer was directed to be overruled by the Circuit Court of Appeals for the Fourth Circuit in *United States* v. *West Virginia Power Co.*, 91 F. (2d) 611, but on account of statutory amendments new condemnation proceedings were instituted and the matter is still pending in the courts. The major item of controversy is the constitutional power to condemn the land for a flood-control project. *United States* v. *West Virginia Power Co.*, Law No. 13, Southern District for West Virginia.

[44] See H. Doc. No. 91, 74th Cong., 1st Sess., pp. 69, 111, 118–119.

general flood control program, a Commission license would still be required under Section 23 to ensure that this would be the case. But in fact there is not likely to be any such dovetailing of respondent's interest in power development and that of the public in flood control.

There is an inherent conflict of interests between the operation of a dam and reservoir for power purposes and its operation for flood control purposes. For power purposes it is best to have the reservoir always filled to capacity. For flood control purposes it is at times desirable that the reservoir be drawn down to provide storage space for cushioning floods (R. 625–6, 986–90, 1259). It is to be expected that the respondent, unless subject to regulation, will operate the project in behalf of its own pecuniary interests, as a part of its interstate electric power system, and without regard to the interests of flood control and navigation. As respondent itself has declared, its project "is a power project and not a flood control project" (Br. in Opp. 22). And it would require a considerable optimism to believe that during flood times the release and storage of water from and in respondent's reservoir could be timed in relation to that in other reservoirs as well if respondent is uncontrolled as if it were subject to the coordinating authority of the Federal Government. Certainly

the provisions of Section 23 were drafted for the very purpose of having governmental control take the place of an unenforcible faith in the cooperation and self-sacrifice of private operators of hydroelectric projects.

We may assume that the respondent is a public-spirited corporation and that it would not so operate the project as to contribute to floods and disaster. The fact remains that Congress has embarked upon a program of regulation, and respondent's plea for self-regulation should properly be addressed to Congress.

It follows that "the interests of interstate * * * commerce" must inevitably be affected by respondent's project, since without the control afforded by the license provisions there can be no assurance (1) that the reservoir will be drawn down during flood times, or (2) that the storage and release of water can be coordinated with the other tributary reservoirs in the Ohio Valley. Section 23, therefore, forbids the construction or operation of the project without a Commission license.[45]

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[45] Respondent suggests (Br. in Opp. 22) that this question may not be raised because it was not alleged or argued below that the project would be beneficial to flood control. This seems simply a branch of its suggestion that beneficial effects upon navigable capacity cannot be relied upon in this Court, which we have already answered (*supra*, pp. 94–101). In any event, the complaint specifically alleges the comprehensive flood-control program of the Government (R. 16), and the issue was considered by both courts below.

## III

### THE CHALLENGED PROVISIONS OF THE FEDERAL POWER ACT ARE CONSTITUTIONAL

It is not easy to define the constitutional issues which are presented in this case. To err on the side of caution we shall meet each of the constitutional objections suggested by the courts below or argued by respondent in the court below.

Both the District Court and the Circuit Court of Appeals held that no license was required under the terms of the Federal Power Act. There was, therefore, no occasion for either court to consider the constitutional questions urged by respondent. Yet each court undertook to discuss what it felt to be the constitutional defects of the Act if it had been applicable. Both courts suggested that Congress had no constitutional authority to direct that conditions be placed in the Commission licenses which were unrelated to navigation (R. 150–51, 2891–92, 2919–20). The court below went still further, and declared that Congress could not control the exercise of water power rights by the riparian owner without paying just compensation (R. 2921–22). Finally, it intimated that the Act unconstitutionally invaded the rights of the states because, through the "recapture clause" of Section 14, it placed ultimate ownership of projects in nonnavigable waters in the United States rather than the states (R. 2921–22).

The respondent argued several additional propositions in the court below, none of which was noticed by either court. It urged that, if the stream were nonnavigable, there would be no power in Congress to require a license (Br. below, 62–67). It argued that for the federal government to exercise a regulatory control in matters unrelated to navigation was outside its powers and an invasion of the rights of the states (Br. below, 68–71). Finally, it contended that the provisions of the recapture clause violated the Fifth Amendment because they contemplated that property should be taken without just compensation (Br. below, 71–73).

These various constitutional objections, it may be noted at the outset, do not seem to us to present substantial questions if the project is located in navigable waters or impairs navigable capacity. The issues may be classified into three major contentions: (a) The licensing power is limited to navigable waters or to the protection of navigation. (b) The rights of the states have been invaded. (c) Just compensation is denied for the power rights and the recaptured project. After sketching the historical background and justification for the Act, we shall discuss these issues in the indicated order.

### A. THE CONSTITUTIONAL BACKGROUND OF THE FEDERAL WATER POWER ACT OF 1920

It is unnecessary to develop the fact that the water power resources of the country are a rich

national heritage. Since at least the beginning of the century, their adequate development and control have been recognized as a major problem of the United States. The problem is complicated by the diverse ends which the waters of the nation may serve. They may be used: (a) to develop navigation, usually requiring a regular flow of the maximum amount of water; (b) for irrigation, which commonly will draw off water during periods of low flow; (c) for power development, which ordinarily will be based upon the maximum practicable storage and which will cause a fluctuation in flow according to the fluctuation of demand for electric energy; and (d) for flood control, looking to a reservoir empty before the time of flood and a discharge based upon the location of the flood crest.

It is evident that a project designed to serve one of these purposes will not necessarily be of equal benefit to another. It is equally apparent, because of the limited number of sites, that the construction of one project precludes the construction of others, and that a proper development of a river requires an integrated plan in place of haphazard construction and operation. Finally, it is plain that of the alternative uses of the river only irrigation and, especially, power development will attract private capital. In the case of an uncontrolled private power development there would be real danger, first, of monopolization of the power resources of the nation through the limited number both of sites and of distribution systems and, sec-

ond, of foreclosing utilization of the waterway for other equally important purposes.[1]

To reconcile the divergent ends, to assure the maximum practicable accomplishment of each purpose, a central authority with power coextensive at least with the length of river is plainly necessary. Particularly is this the case since the various purposes for which a project might be used are not at all irreconcilable, so long as there be only a limited use of the project for any single purpose. Indeed, the combination of several purposes in one project, and the allocation of joint costs among each, may make economically feasible a project for multiple purposes which would be uneconomic for any one. See Report of Army Engineers on Tennessee River, H. Doc. No. 328, 71st Cong., 2d Sess., pp. 64–75, 91–95; Report of National Resources Committee, *Energy Resources and National Policy* (1939) pp. 3–4, 12, 25–28, 275–79, 306–313.

The urgent necessity of proper federal control or development of the waters of the nation has been recognized for at least a generation. President Roosevelt in 1908 vetoed a bill authorizing construction of a dam in the Rainy River because authority should be withheld unless the proj-

[1] Message of President Roosevelt and accompanying Report of National Conservation Commission (1909), Sen. Doc. No. 676, 60th Cong., 2d Sess., Vol. I, pp. 6, 44–45; Vol. II, pp. 171–177; Final Report of the U. S. National Waterways Commission, Sen. Doc. No. 469, 62d Cong., 2d Sess., pp. 42–43; Veto Message of President Roosevelt on James River Bill (1909), H. Doc. No. 1350, 60th Cong., 2d Sess., pp. 5–8.

ect were part of "a consistent, unified plan" (Sen. Doc. No. 438, 60th Cong., 1st Sess., p. 2). The President in this message announced the conditions which would have to be in future bills if they were to escape his veto; these included the correlation of navigation and power and a limited franchise period.[2] President Taft in 1912 vetoed a bill authorizing a dam in the Coosa River for failure to meet these conditions (48 Cong. Rec. 11796 *et seq.*).

Congress itself was not indifferent to these needs. The general dam Act of 1910 (c. 360, 36 Stat. 593), contained numerous restrictions upon the powers of persons authorized by Congress to construct dams, including (a) a direction to the Secretary of War, whose approval of plans was required, to consider the bearing of the project "upon a comprehensive plan" for the navigation and water power development of the waterway; (b) reasonable charges for the use of the privilege to construct the dam, and further charges to reimburse the Government for headwater work beneficial to the project; and (c) termination of the grant 50 years after approval of the project. This Act, imposing stringent and possibly uncertain obligations upon

[2] See, also, his veto of a Muscle Shoals bill in 1903. H. Doc. No. 427. 57th Cong., 2d Sess. On January 15, 1909, the President vetoed a bill for the construction of a dam in the James River which did not meet these conditions. H. Doc. No. 1350, 60th Cong., 2d Sess. For the same reason, President Taft in 1912 vetoed a bill authorizing a dam in the Coosa River. 48 Cong. Rec. 11796.

the project owner, prevented any very extensive development of the water power resources of the country; in the decade following its passage only 14 special acts were passed by Congress and only 2 projects actually constructed.[3] H. Rep. No. 61, 66th Cong., 1st Sess., p. 3.

Some different scheme was plainly required, which would serve the ends of conservation and yet permit development of the nation's rivers. Throughout the period which preceded enactment of the Federal Water Power Act of 1920 the plans centered about two alternatives. The Government could forbid private development altogether and itself construct the projects or, on the other hand, it could license private capital to develop the streams subject to a carefully integrated system of regulation. The constitutional power was, naturally enough, viewed as the same in either case: the choice was simply between public or private agents.[4] The Federal Water Power Act of 1920

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[3] With this should be compared the 124 major projects, representing an ultimate capacity of 6,780,000 horse power and an estimated cost of $756,000,000, which have been licensed by the Federal Power Commission. 1939 Annual Report of Federal Power Commission, p. 33.

[4] Message of President Roosevelt, vetoing Rainy River Bill, Sen. Doc. No. 438, 60th Cong., 1st Sess., p. 2; Message of President Taft, vetoing Coosa River Bill (48 Cong. Rec. 11796); Report of Sub-Committee of the Judiciary (Senators Knute Nelson, Elihu Root, and William E. Chilton) in response to S. Res. 44, S. Doc. No. 246, 64th Cong., 1st Sess., pp. 16–18; S. Rep. No. 1131, 62d Cong., 3d Sess., pp. 2–4 (approving Connecticut River Bill), with attached letter of

chose the more conservative of these alternatives and provided for private development under close federal supervision. The Senate Committee reported (S. Rep. No. 180, 66th Cong., 1st Sess., p. 3):

> Legislative action should be delayed no longer. We should do one of two things: We should pass legislation which will lead private capital and enterprise to develop these resources under such regulations as will give consumers good service and cheap power, or the Government itself should proceed to make this development. This bill proceeds on the theory of private development with ultimate public ownership possible. * * *

There can now be no question of the power of the United States to build a dam and reservoir in a navigable stream for the multiple purposes of aiding navigation, promoting irrigation and flood control, and utilizing the power resources which are incidentally developed and which make the project economically feasible. *Ashwander* v. *Tennessee Valley Authority*, 297 U. S. 288; *Arizona* v. *California*, 283 U. S. 423. It would seem equally clear, although this Court has not squarely so held, that the United States is fully authorized to build a corresponding project in nonnavigable waters if it

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Secretary of War Stimson, pp. 4–5; Senators Root (49 Cong. Rec. 3056, 3057), Newlands (49 Cong. Rec. 2702), Walsh (53 Cong. Rec. 2639), Husting (53 Cong. Rec. 2650) in the debates on the Connecticut River and Shields bills.

serves to protect or to improve downstream navigable capacity or to promote the interests of flood control. *United States v. Rio Grande Irrigation Co.*, 174 U. S. 690, 703, 706, 708–710; *United States v. Utah*, 283 U. S. 64, 75, 90.[5] This alternative solution of the basic problem has been accepted as the most satisfactory in a number of important instances,[6] and could of course have been followed with respect to this very project. See *United States v. West Virginia Power Co.*, 91 F. (2d) 611 (C. C. A. 4th), relating to the Bluestone project.

But there is no constitutional requirement that the federal government safeguard the national interests only by direct construction itself. Surely, it lies as fully within the federal power to license

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[5] See, also, *California Oregon Power Co.* v. *Cement Co.*, 295 U. S. 142, 159; *United States* v. *Eighty Acres of Land*, 26 F. Supp. 315, 320 (E. D. Ill.); *Appalachian Electric Power Co.* v. *Smith*, 4 F. Supp. 6 (W. D. Va.), affirmed on other grounds, 67 F. (2d) 451 (C. C. A. 4th), certiorari denied, 291 U. S. 674; *United States* v. *Griffin*, 58 F. (2d) 674 (W. D. Va.); *United States* v. *546.03 Acres*, 22 F. Supp. 775, 777 (W. D. Pa.). Cf. Brief in Support of Response to Rule to Show Cause in *Oklahoma* v. *Woodring*, No. —, Original, this Term, pp. 19–53.

[6] See, e. g., Reclamation Act of 1902, c. 1093, 32 Stat. 388; Boulder Canyon Project Act, c. 42, 45 Stat. 1057; Tennessee Valley Authority Act, c. 32, 48 Stat. 58; Bonneville Project Act, c. 720, 50 Stat. 731.

Section 7 (b) of the Federal Power Act directs the Commission to disapprove an application for development of a project which the Commission believes should be undertaken by the Government.

a private person as an agent for the federal purposes as to accomplish them directly. *McCulloch* v. *Maryland,* 4 Wheat. 316. As Judge Parker said below (R. 2942):

> What the government may thus do itself, it may license a private corporation to do upon such terms and conditions as, in the opinion of Congress, the public interest may require.

The remaining parts of this brief will dispose of the specific objections which have been made to this application of the Federal Power Act.

### B. THE SCOPE OF THE LICENSING POWER UNDER THE COMMERCE CLAUSE

Respondent has objected to the licensing provisions of the Federal Power Act on the grounds that Congress under the commerce clause has (1) no power to require the license at all or (2) to require insertion of the terms of the license which do not relate to navigation. The lower courts have not noticed the first contention, and have expressed agreement with the second (R. 150–51, 2891–92, 2919–20). The question as to the exercise of the licensing power of Congress under the commerce clause, it must be emphasized, is simply whether it is a regulation of interstate commerce, of instrumentalities thereof, or of matters substantially affecting interstate commerce or its instrumentalities.

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1. *Congress Has Power to Prohibit the Project or to Require the License*

Respondent has not contested the power to forbid construction of the project if New River be held navigable. This issue, then, relates only to the power of Congress to require a license under Section 23 of the Act before the project is constructed or operated.

(*a*) *If the project impairs navigable capacity.*— As we read the argument, respondent urges that the United States can exercise no power over projects in nonnavigable streams except to forbid impairment of downstream navigable capacity; the license, sanctioning an impairment, it seems to feel, contradicts the occasion for the exercise of federal power.

There can be no question of the power to forbid, or to compel modification of, a project in a nonnavigable stream which impairs lower navigable capacity. *United States* v. *Rio Grande Irrigation Co.*, 174 U. S. 690; compare *Shreveport Rate Cases*, 234 U. S. 342, 351–352; *Wisconsin Railroad Commission* v. *Chicago, B. & Q. R. R. Co.*, 257 U. S. 563, 588. There is an equal power to license such a project.[7] A project, which in the absence of regulation would obstruct or impair downstream navi-

[7] Prohibition by Congress of hydraulic mining, except under permission of a Federal commission and without compensation to the mine owners, above the navigable parts of the stream has been held valid. *North Bloomfield Gravel Mining Co.* v. *United States*, 88 Fed. 664 (C. C. A. 9th).

gable capacity may, under regulation by a license, be so constructed and operated that the impairment is minimized to the point where it no longer constitutes an unreasonable obstruction. See *Wisconsin* v. *Illinois,* 278 U. S. 367, 413. Indeed, under regulation, a project which would otherwise have adverse effects may even become beneficial to lower navigable capacity. Plainly, there is no conflict between the finding that an unregulated project will impair navigable capacity and a decision that a license should be issued. And the Commission might well find that the other public ends served by a project outweighed any impairment to navigable capacity (see *infra,* pp. 129–131); this is a decision which plainly Congress may leave to a public body rather than a private project operator. See *Greenleaf Lumber Co.* v. *Garrison,* 237 U. S. 251, 268.

(*b*) *If the project affects navigable capacity or flood control.*—The result, we submit, is not changed even though the Court should hold the project not to be located in navigable water and not to impair navigable capacity.

1. The *Rio Grande* case would seem on principle to settle the power of Congress to prohibit the construction of unlicensed projects in nonnavigable streams even though their effect were to benefit rather than to obstruct navigable capacity. For, as we have shown (*supra,* pp. 99–100), under different methods of operation, or after abandonment, a beneficial project may become harmful.

But even apart from that case, the interests both of navigation and of flood control require a control by the United States of projects which are intimately related to those matters of national concern. The question is simply whether the paramount power of Congress under the commerce clause includes the power to prohibit construction save under a federal license.

Respondent's riparian rights go no further than "the enjoyment of the natural flow" of the stream. *United States* v. *Cress*, 243 U. S. 316, 321.[8] There is no right superior to the powers of Congress to *alter* the natural flow of the stream in a manner so greatly as to affect downstream navigable capacity or the program of flood control. The commerce powers of the United States do not reach to imposing a servitude on the natural flow of nonnavigable streams, but certainly they include the power to forbid an alteration in the natural flow save upon conditions designed to protect and foster the interests of interstate commerce. Respondent, it is true, urges that its alteration will benefit rather than impair navigable capacity. But this is a question which must be answered by Congress, not by respondent.

2. It is, however, unnecessary in this case to explore the scope of the riparian servitude to the commerce power, for respondent as an interstate

[8] This case, it is to be noted, while dealing with nonnavigable streams, does not distinguish between navigable and nonnavigable waters (p. 319).

public utility is in no position to complain of any prohibition against unlicensed construction of its project. For its project will send the bulk of its electric energy into interstate commerce (R. 2473), and will be part of an extensive interstate electric system, interconnected with other systems (R. 2739). It is, then, fully subject to the commerce powers of Congress quite without regard to the federal control of tributary streams. *Public Utilities Commission* v. *Attleboro Steam & Elec. Co.*, 273 U. S. 83, 86; *Utah Power & L. Co.* v. *Pfost*, 286 U. S. 165, 182; *Electric Bond Co.* v. *Commission*, 303 U. S. 419, 432–433. And, since Congress is authorized to regulate the interstate transmission of electricity (as it has done in Part II of the Federal Power Act), it has full power to license its generation for purposes of interstate sale. Any other rule would exempt the roundhouse and the terminal from federal control of interstate railroads.[9]

Respondent, then, is subject to the power of Congress to forbid unlicensed construction and operation of its hydroelectric plant designed to send electric energy into interstate commerce. It is accordingly without standing to complain of the statute, whatever might be the rights of a project operator whose business was wholly intrastate.

[9] *Utah Power & L. Co.* v. *Pfost*, 286 U. S. 165, is not opposed. The Court there held that the state had power to tax the generation of electric energy distributed in interstate commerce. This, of course, does not control the reach of the commerce powers of Congress. Cf. *Edison Co.* v. *Labor Board*, 305 U. S. 197.

*Austin* v. *The Aldermen,* 7 Wall. 694, 698-699; *Hatch* v. *Reardon,* 204 U. S. 152; *Berea College* v. *Kentucky,* 211 U. S. 45, 54; *Farmers' Bank* v. *Minnesota,* 232 U. S. 516, 530; cf. *Liggett* v. *Lee,* 288 U. S. 517, 535. The court below ignored this basis of constitutional power, and its broad dicta attempting to limit the commerce clause to navigation alone do violence to the salutary rule that constitutional decisions should not be made when unnecessary to dispose of the case.

3. Finally, the federal power for another reason reaches to control of respondent's project, whatever the navigability of New River at its site. For the waters do not always remain matters of concern to Virginia alone. Sixty-five miles after they leave respondent's turbines they flow into West Virginia; 180 miles later they reach Ohio. The waters, then, are more than intrastate waters; they are themselves an interstate movement. Whether they come in large or small volume, whether steadily or intermittently, whether they are peaceful waters or those which carry the devastation brought by floods, are matters which concern West Virginia and Ohio as fully as Virginia. The Constitution grants power to Congress in terms far too broad to exclude the interstate movement of waters when Congress can forbid or control the interstate movement of stolen automobiles, *Brooks* v. *United States,* 267 U. S. 432; impure foods, *Hipolite Egg Co.* v. *United States,* 220 U. S. 45; kidnapped persons, *Gooch* v. *United States,* 297 U. S. 124; convict-made goods,

*Kentucky Whip & Collar Co.* v. *Illinois Central R. Co.*, 299 U. S. 334; or women transported for immoral purposes, *Caminetti* v. *United States*, 242 U. S. 470. Indeed, the power to control the interstate movement of tributary streams would seem to follow *a fortiori* from these cases. Just as the ranging of cattle across state lines is interstate commerce, *Thornton* v. *United States*, 271 U. S. 414, 425, and may be regulated to prevent the spread of disease, so the movement of interstate waters is included in any definition of interstate commerce which is as broad as the purposes to be accomplished by the commerce clause. A movement, traffic, or intercourse which, within a state, is a proper object of state governmental power to regulate or promote becomes by the same token a proper object of federal power when the movement, traffic, or intercourse is "among the several states." *Gibbons* v. *Ogden*, 9 Wheat. 1. Certainly this is the case here. For the waters as they flow downstream can, on the one hand, be of immense benefit, through navigation, irrigation, and power development; on the other hand, in times of flood, they can carry incalculable devastation. Their benefits can be assured, and their dangers minimized, not by the uncoordinated action of individual states but only through a control which is coextensive with the entire river and, indeed, with the entire section of the nation.

*2. The Terms of the License*

Respondent urges that, even if the unlicensed construction of the project may be forbidden, Con-

gress, under the commerce clause, has no constitutional power to impose conditions beyond those relating to navigation. This, it says, is the case whether New River be navigable or nonnavigable. The courts below have indicated agreement with this position (R. 150–51, 2891–92, 2919–20). The argument, we submit, cannot be accepted.

The conditions to the license which are found exceptionable as beyond the scope of the commerce clause (as distinguished from the due process objections which are considered in a later section) are those which do not relate to the protection of navigation, but instead seek to assure conservation and regulation of the use of water resources and to permit ultimate recapture of the project by the United States. See *New Jersey* v. *Sargent*, 269 U. S. 328, 336. These conditions, so far as they would affect respondent's project, may be summarized as follows: The project shall in the judgment of the Commission be the best adapted to a comprehensive plan for the improvement of navigation and "for the improvement and utilization of water-power development". Sec. 10 (a). The licensee shall maintain the hydroelectric plant in adequate repair, and shall maintain adequate depreciation reserves for that purpose. Sec. 10 (c). The licensee after the twentieth year of operation shall maintain amortization reserves out of surplus accumulated in excess of a specified reasonable rate of return, the reserves to be applied to reduction of net invest-

ment. Sec. 10 (d). The licensee shall pay reasonable annual charges to reimburse the United States for the cost of administration. Sec. 10 (e). Combinations to restrain trade or fix the price of electricity are forbidden. Sec. 10 (f). Upon two years notice the Government after expiration of the license period may take over the project upon payment of the net investment, not to exceed the fair value of the project; the net investment, to be determined after hearing, is not to include good will, going value, prospective revenues, or increment in land values. Sec. 14.

The other provisions of the Act which are challenged as unrelated to navigation will not affect respondent's project, since they apply only in the absence of state regulation. Respondent's objections to the provisions designed to implement the recapture clause are largely objections of due process, and are treated below. So far as there is any complaint that these provisions, or those relating to the conservation of water resources, lie outside the boundaries of the commerce clause, it is easily answered by reference to the power of Congress to forbid the construction or operation of the project (*supra*, pp. 122–127), and to impose reasonable conditions to the grant of the privilege.

Since, whether the waters be navigable or non-navigable, Congress has power to forbid the construction or operation of a project (*supra*, pp. 122–127), it can impose reasonable conditions to the grant of the privilege.

We have sketched the large and interrelated public purposes to be accomplished through control of the waters of the nation, and the insistence of contemporary statesmen that they be exploited, whether by the Government or by its licensed agents, only in a manner which woud ensure the realization of these purposes (*supra*, pp. 114–121). The Constitution surely does not defeat their expectations, or characterize as unreasonably remote to commerce the conditions designed to secure these ends.

Since, as Judge Parker observed (R. 2941–42), the Government could itself construct the project, the conditions which it requires of its licensees cannot possibly be the accomplishment of a forbidden end. Compare *Blake* v. *McClung*, 172 U. S. 239; *Terral* v. *Burke Construction Co.*, 257 U. S. 529. The license provisions fall, therefore, well within the settled powers of government. Analogies lie ready to hand in the decisions of this Court. The United States can, of course, condition the use of its public land in any manner that it chooses. *Arizona* v. *California*, 283 U. S. 423, 464; *Ruddy* v. *Rossi*, 248 U. S. 104; *Oregon & Cal. R. R.* v. *United States*, 238 U. S. 393, 421–422. The state can regulate the rates of private contract carriers who choose to use its highways. *Stephenson* v. *Binford*, 287 U. S. 251. It can condition the erection of a dam in its rivers by regulatory and recapture provisions directed at the hydroelectric plant of the dam owner. *Fox River Co.* v. *Railroad Commission*, 274 U. S. 651. Again, Congress can condition its consent to

a railroad consolidation by requiring retirement pensions for the employees. *United States* v. *Lowden,* No. 343, this Term; compare *Railroad Retirement Board* v. *Alton R. Co.,* 295 U. S. 330.

Since, whether respondent's project is located in navigable or in nonnavigable waters, the United States has power to forbid its construction, it has therefore full power to condition its permission with regulatory provisions designed to serve public ends, and this whether or not the conditions are directly related to navigation as such. See *Green Bay &c. Canal Co.* v. *Patten Paper Co.,* 172 U. S. 58, 90.

C. THERE IS NO INVASION OF THE RIGHTS OF THE STATES

Respondent has urged that the Federal Power Act, in providing economic and financial regulation of the licensees, and in making it possible for ultimate ownership of the project to vest in the United States, invades the rights of the states in violation of the Tenth Amendment. The states of Virginia and West Virginia,[10] as *amici curiae,* have made similar contentions. The majority of the court below did not pass on this question so far as it relates

[10] It is to be noted that West Virginia at one point viewed the Federal Power Act as protecting rather than invading its rights. It appeared before the Commission (Ex. 125, R. 2643) and protested against the issuance of any license to the respondent, except upon the condition that there would be no restriction of the continuous use of the river for power purposes or navigation at points downstream within the State of West Virginia.

generally to the conditions of the license which do not pertain to navigation, but suggested its agreement with the contention that if the project was not located in navigable waters of the United States, the power of recapture was a state rather than a federal power (R. 2920–22). We submit that, whether the respondent's project is located in navigable water or whether, although in nonnavigable water, it affects the interests of interstate commerce, there is no invasion of the rights of the states.

1. *The Tenth Amendment Is Inapplicable*

It has been shown that the provisions of the Federal Power Act which are here assailed constitute a valid exercise of the powers granted to Congress to regulate interstate commerce. This disposes of the argument that the Act violates the Tenth Amendment, which merely provides that:

> The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.

Language could not express more clearly that the Amendment does not reserve to the states any power which is "delegated to the United States by the Constitution," nor indicate more plainly that the Amendment does not limit the scope of any power which is delegated to the United States. The Amendment has no independent operation. It comes into effect only after a determination

that an Act of Congress is not authorized under the granted powers.

These propositions seem self-evident. In any event, an elaborate argument to this end has been presented by the Government in each of the last two terms, *United States* v. *Bekins,* 304 U. S. 27, No. 757, Oct. Term, 1937, Br. pp. 47–66; *Mulford* v. *Smith,* 307 U. S. 38, No. 505, Oct. Term, 1938, Br. pp. 120–138, and a somewhat more compressed argument during the present Term, *Oklahoma* v. *Woodring,* Orig., No. —, Br. pp. 54–63. It seems unnecessary, at least within the same Term, again to present that argument.

2. *The Act Safeguards National Interests and Does Not Invade Fields Reserved to the States*

But even if one could find a limitation upon Federal powers in the Tenth Amendment, or in the lurking implications of the Federal system, the Federal Power Act lies far within the permissible boundaries of the federal powers.

Enough has already been said, in discussing the genesis of the Federal Water Power Act of 1920 (*supra,* pp. 114–121), to show that the development and control of the water resources of the country has long been recognized as a national problem. Indeed, no other conclusion would be possible. The rivers flow past or along state boundaries, their navigability in one state often depends as much upon upstream conditions in another state as those in the state through which the stream is flowing.

If floods in Pennsylvania and Ohio are to be reduced, the tributaries in West Virginia and Virginia must be controlled. If downstream lands in arid regions are to be irrigated, the water appropriations in upstream states must be controlled.[11] If the development of hydroelectric energy is to be accomplished without injury to these interstate concerns, the state or states in which the dam chances to be built cannot have the sole voice in its control.

It is unnecessary to labor the point. For it is evident that the ruling of the Court in *Helvering* v. *Davis,* 301 U. S. 619, in regard to old age pensions, applies *a fortiori* here. The Court said (p. 644):

> The problem is plainly national in area and dimensions. Moreover, laws of the separate states cannot deal with it effectively. Congress, at least, had a basis for that belief. * * *

It seems abundantly clear that the Federal Power Act deals with a problem which spreads far beyond the boundaries of the states and can be solved by the national government alone.[12]

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[11] For this reason this Court in the apportionment of the waters of an interstate stream has evolved a "'federal common law' upon which neither the statutes nor the decisions of either State can be conclusive." *Hinderlider* v. *La Plata Co.,* 304 U. S. 92, 110; *Kansas* v. *Colorado,* 206 U. S. 46.

[12] It may be noted in passing that Congress has been completely solicitous of states' rights in the Federal Power

The apprehension over ultimate ownership of the project which the court below expressed (R. 2921–22) is somewhat premature, since it is merely an option to be exercised half a century in the future. But, even if it be assumed that the United States will in truth be the ultimate owner of the project, there is in this no invasion of Virginia's rights. The court below (R. 2920-21) and respondent (Br. below 71–73) in terms recognize the Government's power itself to build the project or to take the project by eminent domain (*supra*, p. 119–120). It follows without more that there is no invasion of the rights of the states if the United States elects instead to secure an option to take over the project 50 years in the future.

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Act. Persistently throughout the Act, states, their subdivisions, and their regulatory agencies, are given every privilege or power which is not plainly inconsistent with the purposes of the Act. See Sections 3 (7), 4 (c), 4 (f), 7 (a), 10 (e), 14, 17 (a), 20, 22, 27. In particular, Section 9 (b) provides that applicant for a license must show satisfactory evidence of compliance with the requirements of the laws of the state or states within which the proposed project is to be located with respect to the bed and banks of the stream and to the appropriate diversion and use of water for power purposes, and with respect to the right to engage in the business of developing, transmitting, and distributing electric power. Likewise, one of the conditions of the license, under Section 19, is that any licensee which is a public utility must abide by such reasonable regulations of the services to be rendered to customers or consumers of power and the rates and charges of payment therefor as may from time to time be prescribed by any duly constituted agency of the state in which the service is rendered or the rate charged.

### D. THERE IS NO TAKING WITHOUT JUST COMPENSATION

#### 1. *There Is No Taking of Power Rights*

Respondent has argued that the riparian owner on a nonnavigable stream is subject to no servitude to navigation, and that to restrict his power rights by the Commission license is to take property without payment of just compensation; the court below seems to agree (R. 2919). There is no contention that the Federal Power Act receives an unconstitutional application in this regard if respondent's project is located in navigable waters.

The short answer is that Congress has power to forbid an unlicensed project, even if it is in nonnavigable waters, so long as it affects navigable capacity or interacts upon the flood control program. Moreover, the respondent's riparian rights are limited to the *natural* flow of the stream (*supra,* p. 124) and do not include the right at will to impound and release instrumentalities of interstate commerce so important to downstream commerce and to flood control as the waters of New River (*supra,* pp. 126–127). There can, then, be no claim that just compensation is due for the restrictions Congress has placed upon respondent's use of its rights to develop power in New River. See *United States* v. *Chandler-Dunbar Co.,* 229 U. S. 53.

#### 2. *The Recapture Provision Is Valid*

Respondent has urged that, even if all else be valid, the recapture provision is unconstitutional because without the payment of just compensation it will be confiscatory of its property. Neither court below noticed the argument.

Section 6 of the Federal Power Act provides that licenses shall be issued for not more than 50 years. Section 14 authorizes the United States, upon two years' notice after the license period, to take over the project upon payment of the net investment in the project, not to exceed the fair value. The net investment, to be determined after hearing, is not to include the value of the license, good will, going value, or any increment in land value. Under Section 10 (d) the licensee after the twentieth year of operation shall maintain amortization reserves out of surplus accumulated in excess of a reasonable rate of return, the reserves to be applied to the reduction of net investment.

(*a*) *Respondent cannot now raise the question.*— It is unnecessary in this proceeding to consider the validity of the recapture provision, because respondent will have an adequate remedy if its constitutional rights should ever in fact be invaded.

It may be that the possibility of future recapture has an effect upon respondent's present values or plans. But the fact remains that until expiration of the license period, it is only speculative (1) whether the United States will choose to take over the project, and (2) whether the net investment will be less than the fair value. No man can venture to predict the prevailing social viewpoint, the economic value of respondent's project, the technological obsolescence of present-day hydroelectric plants, and the price levels which will obtain half a century in the future. Any constitutional decision,

then, must be directed at a statute which may never be applied to respondent. See *Anniston Mfg. Co.* v. *Davis*, 301 U. S. 337, 355; *Ashwander* v. *Tennessee Valley Authority*, 297 U. S. 288, 324–325; *Arizona* v. *California*, 283 U. S. 423, 462; *Electric Bond Co.* v. *Commission*, 303 U. S. 419, 443.

If, half a century in the future, the recapture provisions should in fact be invoked, and if respondent should still be of the opinion that they are unconstitutional, it will have at that time wholly adequate remedies by which to obtain whatever it may be entitled to as just compensation. Section 6 of the Federal Power Act, it is true, provides that the license "shall be conditioned upon acceptance by the licensee of all the terms and conditions of this Act." But, if respondent should be correct in its assertion that the recapture provision is unconstitutional, the license which is imposed upon respondent need not be read as a contractual assent to its provisions, and need not operate as an estoppel against a subsequent challenge. *Union Pacific R. R. Co.* v. *Public Service Commission*, 248 U. S. 67; *Power Mfg. Co.* v. *Saunders*, 274 U. S. 490. Therefore, if this Court were to postpone consideration of the recapture provision because of its speculative operation and application, there could be no question of estoppel by respondent when and if the provision were applied. *Electric Bond Co.* v. *Commission*, 303 U. S. 419, 435.

At the time of any recapture, respondent would have available either of two adequate remedies.

The net investment which would be paid respondent is, under Section 14, to be "determined by the Commission after notice and opportunity for hearing." Under Section 313 (b), respondent would be empowered to obtain judicial review of the Commission's determination. Both before the Commission and in the courts it could urge all of the constitutional, legal, and factual reasons for receiving the amount to which it felt entitled. *Anniston Mfg. Co.* v. *Davis*, 301 U. S. 337, 345–346.

But if for any reason this remedy were inadequate—so that respondent's property were taken for less than the constitutional obligation of just compensation—an implied contract would arise and would permit suit in the Court of Claims. *United States* v. *Lynah*, 188 U. S. 445, 465–466; *Hurley* v. *Kincaid*, 285 U. S. 95, 104–105; *Yearsley* v. *Ross Construction Co.*, No. 156, this Term, decided January 29, 1940. Thus, in either event, respondent would have a full opportunity at the time of recapture, if any, to press its charge of confiscation.

(*b*) *The recapture provision is a valid condition to the license.*—But, even if respondent can at this time raise the constitutional validity of the recapture provision, it is apparent that it is a valid condition to the license.

1. We have shown that Congress, whether the project be located in navigable waters, or impairs navigable capacity, or affects the interests of interstate commerce, has power to forbid its unlicensed construction or operation (*supra*, pp. 122–127),

Since there is power to prohibit construction or operation, there is of course an equal power to grant a franchise or a license for a limited period. *Gibbons* v. *Ogden*, 9 Wheat. 1. At the end of the license period, the structure can no longer be maintained or operated. It then can have no more than a junk value. Cf. *Roberts* v. *New York City*, 295 U. S. 264, 284–285. The net investment contemplated by the Federal Power Act is far in excess of the junk value of the plant. And there can be no claim for reimbursement for water power rights, the development of which the United States can and has forbidden. Cf. *United States* v. *Chandler-Dunbar Water Power Co.*, 229 U. S. 53.

2. There can, in any event, be no charge of confiscation. The recapture provisions are simply the price which respondent must pay to obtain a privilege otherwise denied it; if the contract is harsh (as it obviously is not), respondent had the simple expedient of not constructing the project.[13] Such is the settled rule with the wholly analogous power of municipalities to condition the terms of their franchises. *Southern Iowa Electric Co.* v. *Chariton*, 255 U. S. 539, 542; *Paducah* v. *Paducah Ry. Co.*, 261 U. S. 267, 273; *Georgia Ry. Co.* v. *Decatur*, 262

[13] This argument, the Court will note, is alternative to that advanced above with respect to respondent's power to challenge the recapture provision when and if the Government seeks to take the project over (*supra*, p. 138). If that argument should be rejected, and respondent permitted to raise the question now, the present argument would seem without more to be established as correct.

U. S. 432, 438–439; *Public Service Co.* v. *St. Cloud*, 265 U. S. 352, 355–356.

The precise question, indeed, appears settled by *Fox River Co.* v. *Railroad Commission*, 274 U. S. 651, 657. There this Court upheld the power of Wisconsin to require a 30-year license of every dam operator, conditioned upon liability to surrender of the project to the State or to a municipality at the end of the license period; the licensee was to be paid the then reproduction cost of the dam and plant and the value of dam site and flowage rights as of the time prior to the license. Because, as we have indicated, of the State's power to forbid construction, the Court held the recapture provision "the price which plaintiffs must pay to secure the right to maintain their dam" (p. 657).

(c) *The recapture provision is valid even if there were no power to forbid construction.* Even if respondent can now raise the question, and even if the Court should hold that Congress has no power to forbid construction or operation of the project, the recapture provision is nevertheless valid.

1. Even if we assume that Congress would be without power to forbid construction of the dam or operation of the hydroelectric plant, this gives respondent no privilege to distribute the electric energy in interstate commerce. Congress can, therefore, forbid the interstate movement of electric energy from respondent's generators. To obtain this privilege, respondent as an interstate public utility must accept a license from the Fed-

eral Power Commission, just as an interstate railroad, motor carrier, or vessel must obtain a license or a certificate of public convenience and necessity from the appropriate federal authority. The recapture provision, then, is an appropriate contractual price to pay for receipt of that privilege, and is valid for the same reason that it is valid as applied to a project the construction of which can be forbidden under the commerce powers.[14]

2. But even if the respondent were not distributing electric energy in interstate commerce, the recapture provision would not fall. It directs, in Section 14, that from net investment there shall be excluded the value of the license, good will, and going value. These elements of value become worthless when the license is terminated (*supra*, p. 140). This leaves only the complaint that any increment in the value of respondent's property will not, under Section 14, be repaid in the event of recapture and the requirement, in Section 10 (d), that the net investment be reduced by amortization reserves built up, after the twentieth year, out of surplus

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[14] We recognize that the Federal Power Act is not drafted on this approach, and does not require in Part II a license simply for the interstate sale of electricity. But, since this lies within the Congressional power, respondent cannot assert the rights of operators of hydroelectric projects who distribute only in intrastate commerce. The Act *does* require a license of respondent, and it cannot attack the constitutionality of that valid requirement because it considers the requirement adopts a faulty reason. See cases cited, *supra*, at pp. 125–126.

accumulated in excess of a specified reasonable rate of return on the net investment.

Respondent cannot challenge the amortization reserve requirement if it is built up out of the excess of its income over a reasonable rate of return. *Dayton-Goose Creek Ry. Co.* v. *United States*, 263 U. S. 456. Its attack, then, must be directed at the requirement that the reasonable rate of return be referred to the net investment value. The United States has recently urged at length that the equivalent "prudent investment" basis of valuation is constitutional. Brief *amicus curiae* in *Driscoll* v. *Edison Co.*, 307 U. S. 104, No. 509, Oct. Term, 1938, pp. 22–69. It seems unnecessary to repeat that argument here, and sufficient to refer to that brief to establish the constitutionality of such a method of valuation. Here, it may be noted, Congress has specifically provided for this method of valuation, and the arguments have augmented strength from that congressional determination.

That leaves only the complaint that the recapture provision denies just compensation because it does not provide payment for any increase in property values during the period of the license. But if one of the obligations of a public utility is to devote its property to the public use for a fair return upon its net investment, by the same token it is subject to public expropriation upon the same basis. If there is no confiscation from year to year, there can be none when the project is taken over at the end of the license period. Certainly this is the result

when respondent, with knowledge of the provisions of Section 14, thereafter undertakes the construction of its project.

## CONCLUSION

The decision of the court below, affirming the final decree of the District Court, should be reversed, with directions to enter a permanent injunction against construction, maintenance, or operation of the project without a license from the Federal Power Commission. This is required because the project is located in navigable waters of the United States, impairs the navigable capacity of waters of the United States, and affects the interests of interstate commerce. A license is therefore required by Sections 4 (e) and 23 (b) of the Federal Power Act, and neither this requirement nor any of the terms of the license is unconstitutional.

Respectfully submitted.

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APRIL 1940.

# APPENDIX A

## STATUTES

The Rivers and Harbors Act of 1899, c. 425, 30 Stat. 1121, 1151 (U. S. C., Title 33, Secs. 401, 403):

SEC. 9. That it shall not be lawful to construct or commence the construction of any bridge, dam, dike, or causeway over or in any port, roadstead, haven, harbor, canal, navigable river, or other navigable water of the United States until the consent of Congress to the building of such structures shall have been obtained and until the plans for the same shall have been submitted to and approved by the Chief of Engineers and by the Secretary of War: *Provided,* That such structures may be built under authority of the legislature of a State across rivers and other waterways the navigable portions of which lie wholly within the limits of a single State, provided the location and plans thereof are submitted to and approved by the Chief of Engineers and by the Secretary of War before construction is commenced: *And provided further,* That when plans for any bridge or other structure have been approved by the Chief of Engineers and by the Secretary of War, it shall not be lawful to deviate from such plans either before or after completion of the structure unless the modification of said plans has previously been submitted to and received the approval of the Chief of Engineers and of the Secretary of War.

SEC. 10. That the creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States is hereby prohibited; and it shall not be lawful to build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty, or other structures in any port, roadstead, haven, harbor, canal, navigable river, or other water of the United States, outside established harbor lines, or where no harbor lines have been established, except on plans recommended by the Chief of Engineers and authorized by the Secretary of War; and it shall not be lawful to excavate or fill, or in any manner to alter or modify the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor of refuge, or inclosure within the limits of any breakwater, or of the channel of any navigable water of the United States, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of War prior to beginning the same.

Federal Water Power Act of 1920, c. 285, 41 Stat. 1063, as amended by the Federal Power Act of 1935, c. 687, 49 Stat. 838 (U. S. C. Supp. V, Title 16, Secs. 791 *et seq.*):

PART I

* * * * *

SEC. 3. The words defined in this section shall have the following meanings for purposes of this Act, to wit:

* * * * *

(8) "navigable waters" means those parts of streams or other bodies of water over which Congress has jurisdiction under its authority to regulate commerce with for-

eign nations and among the several States, and which either in their natural or improved condition notwithstanding interruptions between the navigable parts of such streams or waters by falls, shallows, or rapids compelling land carriage, are used or suitable for use for the transportation of persons or property in interstate or foreign commerce, including therein all such interrupting falls, shallows, or rapids, together with such other parts of streams as shall have been authorized by Congress for improvement by the United States or shall have been recommended to Congress for such improvement after investigation under its authority;

* * * * * *

SEC. 4. The Commission is hereby authorized and empowered—

* * * * * *

(e) To issue licenses to citizens of the United States, or to any association of such citizens, or to any corporation organized under the laws of the United States or any State thereof, or to any State or municipality for the purpose of constructing, operating, and maintaining dams, water conduits, reservoirs, powerhouses, transmission lines, or other project works necessary or convenient for the development and improvement of navigation and for the development, transmission, and utilization of power across, along, from, or in any of the streams or other bodies of water over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States, or upon any part of the public lands and reservations of the United States (including the Territories), or for the purpose of utiliz-

ing the surplus water or water power from any Government dam, except as herein provided: *Provided,* That licenses shall be issued within any reservation only after a finding by the Commission that the license will not interfere or be inconsistent with the purpose for which such reservation was created or acquired, and shall be subject to and contain such conditions as the Secretary of the department under whose supervision such reservation falls shall deem necessary for the adequate protection and utilization of such reservation: *Provided further,* That no license affecting the navigable capacity of any navigable waters of the United States shall be issued until the plans of the dam or other structures affecting navigation have been approved by the Chief of Engineers and the Secretary of War. Whenever the contemplated improvement is, in the judgment of the Commission, desirable and justified in the public interest for the purpose of improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, a finding to that effect shall be made by the Commission and shall become a part of the records of the Commission: *Provided further,* That in case the Commission shall find that any Government dam may be advantageously used by the United States for public purposes in addition to navigation, no license therefor shall be issued until two years after it shall have reported to Congress the facts and conditions relating thereto, except that this provision shall not apply to any Government dam constructed prior to June 10, 1920: *And provided further;* That upon the filing of any application for a license which has not been preceded by a prelimi-

nary permit under subsection (f) of this section, notice shall be given and published as required by the proviso of said subsection.

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SEC. 6. Licenses under this Part shall be issued for a period not exceeding fifty years. Each such license shall be conditioned upon acceptance by the licensee of all the terms and conditions of this Act and such further conditions, if any, as the Commission shall prescribe in conformity with this Act, which said terms and conditions and the acceptance thereof shall be expressed in said license. Licenses may be revoked only for the reasons and in the manner prescribed under the provisions of this Act, and may be altered or surrendered only upon mutual agreement between the licensee and the Commission after thirty days' public notice. Copies of all licenses issued under the provisions of this Part and calling for the payment of annual charges shall be deposited with the General Accounting Office, in compliance with section 3743, Revised Statutes, as amended (U. S. C., title 41, sec. 20).

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SEC. 9. That each applicant for a license hereunder shall submit to the commission—

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(b) Satisfactory evidence that the applicant has complied with the requirements of the laws of the State or States within which the proposed project is to be located with respect to bed and banks and to the appropriation, diversion, and use of water for power purposes and with respect to the right to engage in the business of developing, transmitting, and distributing power, and in

any other business necessary to effect the purposes of a license under this Act.

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SEC. 10. All licenses issued under this Part shall be on the following conditions:

(a) That the project adopted, including the maps, plans, and specifications, shall be such as in the judgment of the Commission will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of water-power development, and for other beneficial public uses, including recreational purposes; and if necessary in order to secure such plan the Commission shall have authority to require the modification of any project and of the plans and specifications of the project works before approval.

(b) That except when emergency shall require for the protection of navigation, life, health, or property, no substantial alteration or addition not in conformity with the approved plans shall be made to any dam or other project works constructed hereunder of an installed capacity in excess of one hundred horsepower without the prior approval of the Commission; and any emergency alteration or addition so made shall thereafter be subject to such modification and change as the Commission may direct.

(c) That the licensee shall maintain the project works in a condition of repair adequate for the purposes of navigation and for the efficient operation of said works in the development and transmission of power, shall make all necessary renewals and replacements, shall establish and maintain adequate depreciation reserves for such pur-

poses, shall so maintain and operate said works as not to impair navigation, and shall conform to such rules and regulations as the Commission may from time to time prescribe for the protection of life, health, and property. Each licensee hereunder shall be liable for all damages occasioned to the property of others by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto, constructed under the license, and in no event shall the United States be liable therefor.

(d) That after the first twenty years of operation, out of surplus earned thereafter, if any, accumulated in excess of a specified reasonable rate of return upon the net investment of a licensee in any project or projects under license, the licensee shall establish and maintain amortization reserves, which reserves shall, in the discretion of the Commission, be held until the termination of the license or be applied from time to time in reduction of the net investment. Such specified rate of return and the proportion of such surplus earnings to be paid into and held in such reserves shall be set forth in the license.

(e) That the licensee shall pay to the United States reasonable annual charges in an amount to be fixed by the Commission for the purpose of reimbursing the United States for the costs of the administration of this Part; for recompensing it for the use, occupancy, and enjoyment of its lands or other property; and for the expropriation to the Government of excessive profits until the respective States shall make provision for preventing excessive profits or for the expropriation thereof to themselves, or until the period of amortization as herein pro-

vided is reached, and in fixing such charges the Commission shall seek to avoid increasing the price to the consumers of power by such charges, and any such charges may be adjusted from time to time by the Commission as conditions may require: *Provided,* That when licenses are issued involving the use of Government dams or other structures owned by the United States or tribal lands embraced within Indian reservations the Commission shall, subject to the approval of the Secretary of the Interior in the case of such dams or structures in reclamation projects and, in the case of such tribal lands, subject to the approval of the Indian tribe having jurisdiction of such lands as provided in section 16 of the Act of June 18, 1934 (48 Stat. 984), fix a reasonable annual charge for the use thereof, and such charges may with like approval be readjusted by the Commission at the end of twenty years after the project is available for service and at periods of not less than ten years thereafter upon notice and opportunity for hearing: *Provided further,* That licenses for the development, transmission, or distribution of power by States or municipalities shall be issued and enjoyed without charge to the extent such power is sold to the public without profit or is used by such State or municipality for State or municipal purposes, except that as to projects constructed or to be constructed by States or municipalities primarily designed to provide or improve navigation, licenses therefor shall be issued without charge; and that licenses for the development, transmission, or distribution of power for domestic, mining, or other beneficial use in projects of not more than one hundred horsepower installed capacity may

be issued without charge, except on tribal lands within Indan reservations; but in no case shall a license be issued free of charge for the development and utilization of power created by any Government dam and that the amount charged therefor in any license shall be such as determined by the Commission. In the event an overpayment of any charge due under this section shall be made by a licensee, the Commission is authorized to allow a credit for such overpayment when charges are due for any subsequent period.

(f) That whenever any licensee hereunder is directly benefited by the construction work of another licensee, a permittee, or of the United States of a storage reservoir or other headwater improvement, the Commission shall require as a condition of the license that the licensee so benefited shall reimburse the owner of such reservoir or other improvements for such part of the annual charges for interest, maintenance, and depreciation thereon as the Commission may deem equitable. The proportion of such charges to be paid by any licensee shall be determined by the Commission. The licensees or permittees affected shall pay to the United States the cost of making such determination as fixed by the Commission.

Whenever such reservoir or other improvement is constructed by the United States the Commission shall assess similar charges against any licensee directly benefited thereby, and any amount so assessed shall be paid into the Treasury of the United States, to be reserved and appropriated as a part of the special fund for headwater

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improvements as provided in section 17 hereof.

Whenever any power project not under license is benefited by the construction work of a licensee or permittee, the United States or any agency thereof, the Commission, after notice to the owner or owners of such unlicensed project, shall determine and fix a reasonable and equitable annual charge to be paid to the licensee or permittee on account of such benefits, or to the United States if it be the owner of such headwater improvement.

(g) Such other conditions not inconsistent with the provisions of this Act as the Commission may require.

(h) That combinations, agreements, arrangements, or understandings, express or implied, to limit the output of electrical energy, to restrain trade, or to fix, maintain, or increase prices for electrical energy or service are hereby prohibited.

(i) In issuing licenses for a minor part only of a complete project, or for a complete project of not more than one hundred horsepower installed capacity, the Commission may in its discretion waive such conditions, provisions, and requirements of this Part, except the license period of fifty years, as it may deem to be to the public interest to waive under the circumstances: *Provided,* That the provisions hereof shall not apply to annual charges for use of land within Indian reservations.

SEC. 14. Upon not less than two years' notice in writing from the Commission the United States shall have the right upon or after the expiration of any license to take over and thereafter to maintain and operate any project or projects as defined in section

3 hereof, and covered in whole or in part by the license, or the right to take over upon mutual agreement with the licensee all property owned and held by the licensee then valuable and serviceable in the development, transmission, or distribution of power and which is then dependent for its usefulness upon the continuance of the license, together with any lock or locks or other aids to navigation constructed at the expense of the licensee, upon the condition that before taking possession it shall pay the net investment of the licensee in the project or projects taken, not to exceed the fair value of the property taken, plus such reasonable damages, if any, to property of the licensee valuable, serviceable, and dependent as above set forth but not taken, as may be caused by the severance therefrom of property taken, and shall assume all contracts entered into by the licensee with the approval of the Commission. The net investment of the licensee in the project or projects so taken and the amount of such severance damages, if any, shall be determined by the Commission after notice and opportunity for hearing. Such net investment shall not include or be affected by the value of any lands, rights-of-way, or other property of the United States licensed by the Commission under this Act, by the license or by goodwill, going value, or prospective revenues; nor shall the values allowed for water rights, rights-of-way, lands, or interest in lands be in excess of the actual reasonable cost thereof at the time of acquisition by the licensee: *Provided,* That the right of the United States or any State or municipality to take over, maintain, and operate any project licensed under this Act

at any time by condemnation proceedings upon payment of just compensation is hereby expressly reserved.

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SEC. 19. That as a condition of the license, every licensee hereunder which is a public-service corporation, or a person, association, or corporation owning or operating any project and developing, transmitting, or distributing power for sale or use in public service, shall abide by such reasonable regulation of the services to be rendered to customers or consumers of power, and of rates and charges of payment therefor, as may from time to time be prescribed by any duly constituted agency of the State in which the service is rendered or the rate charged. That in case of the development, transmission, or distribution, or use in public service of power by any licensee hereunder or by its customer engaged in public service within a State which has not authorized and empowered a commission or other agency or agencies within said State to regulate and control the services to be rendered by such licensee or by its customer engaged in public service, or the rates and charges of payment therefor, or the amount or character of securities to be issued by any of said parties, it is agreed as a condition of such license that jurisdiction is hereby conferred upon the commission, upon complaint of any person aggrieved or upon its own initiative, to exercise such regulation and control until such time as the State shall have provided a commission or other authority for such regulation and control: *Provided*, That the jurisdiction of the commission shall cease and determine as to each specific matter of regulation and control prescribed in this section as soon as the

State shall have provided a commission or other authority for the regulation and control of that specific matter.

SEC. 20. That when said power or any part thereof shall enter into interstate or foreign commerce the rates charged and the service rendered by any such licensee, or by any subsidiary corporation, the stock of which is owned or controlled directly or indirectly by such licensee, or by any person, corporation, or association purchasing power from such licensee for sale and distribution or use in public service shall be reasonable, nondiscriminatory, and just to the customer and all unreasonable discriminatory and unjust rates or services are hereby prohibited and declared to be unlawful; and whenever any of the States directly concerned has not provided a commission or other authority to enforce the requirements of this section within such State or to regulate and control the amount and character of securities to be issued by any of such parties, or such States are unable to agree through their properly constituted authorities on the services to be rendered or on the rates or charges of payment therefor, or on the amount or character of securities to be issued by any of said parties, jurisdiction is hereby conferred upon the commission, upon complaint of any person aggrieved, upon the request of any State concerned, or upon its own initiative to enforce the provisions of this section, to regulate and control so much of the services rendered, and of the rates and charges of payment therefor as constitute interstate or foreign commerce and to regulate the issuance of securities by the parties included within this section, and securities issued by the licensee subject to

such regulations shall be allowed only for the bona fide purpose of financing and conducting the business of such licensee.

The administration of the provisions of this section, so far as applicable, shall be according to the procedure and practice in fixing and regulating the rates, charges, and practices of railroad companies as provided in the Act to regulate commerce, approved February 4, 1887, as amended, and that the parties subject to such regulation shall have the same rights of hearing, defense, and review as said companies in such cases.

In any valuation of the property of any licensee hereunder for purposes of rate making, no value shall be claimed by the licensee or allowed by the commission for any project or projects under license in excess of the value or values prescribed in section 14 hereof for the purposes of purchase by the United States, but there shall be included the cost to such licensee of the construction of the lock or locks or other aids of navigation and all other capital expenditures required by the United States, and no value shall be claimed or allowed for the rights granted by the commission or by this Act.

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SEC. 23. * * *

(b) It shall be unlawful for any person, State, or municipality, for the purpose of developing electric power, to construct, operate, or maintain any dam, water conduit, reservoir, powerhouse, or other works incidental thereto across, along, or in any of the navigable waters of the United States, or upon any part of the public lands or reservations of the United States (including the Territories), or utilize the surplus water or water power from any Government dam,

except under and in accordance with the terms of a permit or valid existing right-of-way granted prior to June 10, 1920, or a license granted pursuant to this Act. Any person, association, corporation, State, or municipality intending to construct a dam or other project works across, along, over, or in any stream or part thereof, other than those defined herein as navigable waters, and over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States shall before such construction file declaration of such intention with the Commission, whereupon the Commission shall cause immediate investigation of such proposed construction to be made; and if upon investigation it shall find that the interests of interstate or foreign commerce would be affected by such proposed construction, such person, association, corporation, State, or municipality shall not construct, maintain, or operate such dam or other project works until it shall have applied for and shall have received a license under the provisions of this Act. If the Commission shall not so find, and if no public lands or reservations are affected, permission is hereby granted to construct such dam or other project works in such stream upon compliance with State laws.

## PART II. REGULATION OF ELECTRIC UTILITY COMPANIES ENGAGED IN INTERSTATE COMMERCE

### DECLARATION OF POLICY; APPLICATION OF PART; DEFINITIONS

SECTION 201. (a) It is hereby declared that the business of transmitting and selling elec-

tric energy for ultimate distribution to the public is affected with a public interest, and that Federal regulation of matters relating to generation to the extent provided in this Part and the Part next following and of that part of such business which consists of the transmission of electric energy in interstate commerce and the sale of such energy at wholesale in interstate commerce is necessary in the public interest, such Federal regulation, however, to extend only to those matters which are not subject to regulation by the States.

(b) The provisions of this Part shall apply to the transmission of electric energy in interstate commerce and to the sale of electric energy at wholesale in interstate commerce, but shall not apply to any other sale of electric energy or deprive a State or State commission of its lawful authority now exercised over the exportation of hydroelectric energy which is transmitted across a State line. The Commission shall have jurisdiction over all facilities for such transmission or sale of electric energy, but shall not have jurisdiction, except as specifically provided in this Part and the Part next following, over facilities used for the generation of electric energy or over facilities used in local distribution or only for the transmission of electric energy in intrastate commerce, or over facilities for the transmission of electric energy consumed wholly by the transmitter.

(c) For the purpose of this Part, electric energy shall be held to be transmitted in interstate commerce if transmitted from a State and consumed at any point outside thereof; but only insofar as such transmission takes place within the United States.

(d) The term "sale of electric energy at wholesale" when used in this Part means a sale of electric energy to any person for resale.

(e) The term "public utility" when used in this Part or in the Part next following means any person who owns or operates facilities subject to the jurisdiction of the Commission under this Part.

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RATES AND CHARGES; SCHEDULES; SUSPENSION OF NEW RATES

SEC. 205. (a) All rates and charges made, demanded, or received by any public utility for or in connection with the transmission or sale of electric energy subject to the jurisdiction of the Commission, and all rules and regulations affecting or pertaining to such rates or charges shall be just and reasonable, and any such rate or charge that is not just and reasonable is hereby declared to be unlawful.

(b) No public utility shall, with respect to any transmission or sale subject to the jurisdiction of the Commission, (1) make or grant any undue preference or advantage to any person or subject any person to any undue prejudice or disadvantage, or (2) maintain any unreasonable difference in rates, charges, service, facilities, or in any other respect, either as between localities or as between classes of service.

(c) Under such rules and regulations as the Commission may prescribe, every public utility shall file with the Commission, within such time and in such form as the Commission may designate, and shall keep open in convenient form and place for public inspec-

tion schedules showing all rates and charges for any transmission or sale subject to the jurisdiction of the Commission, and the classifications, practices, and regulations affecting such rates and charges, together with all contracts which in any manner affect or relate to such rates, charges, classifications, and services.

(d) Unless the Commission otherwise orders, no change shall be made by any public utility in any such rate, charge, classification, or service, or in any rule, regulation, or contract relating thereto, except after thirty days' notice to the Commission and to the public. Such notice shall be given by filing with the Commission and keeping open for public inspection new schedules stating plainly the change or changes to be made in the schedule or schedules then in force and the time when the change or changes will go into effect. The Commission, for good cause shown, may allow changes to take effect without requiring the thirty days' notice herein provided for by an order specifying the changes so to be made and the time when they shall take effect and the manner in which they shall be filed and published.

(e) Whenever any such new schedule is filed the Commission shall have authority, either upon complaint or upon its own initiative without complaint, at once, and, if it so orders, without answer or formal pleading by the public utility, but upon reasonable notice, to enter upon a hearing concerning the lawfulness of such rate, charge, classification, or service; and, pending such hearing and the decision thereon, the Commission, upon filing with such schedules and delivering to the public utility affected thereby a statement in writing of its reasons

for such suspension, may suspend the operation of such schedule and defer the use of such rate, charge, classification, or service, but not for a longer period than five months beyond the time when it would otherwise go into effect; and after full hearings, either completed before or after the rate, charge, classification, or service goes into effect, the Commission may make such orders with reference thereto as would be proper in a proceeding initiated after it had become effective. If the proceeding has not been concluded and an order made at the expiration of such five months, the proposed change of rate, charge, classification, or service shall go into effect at the end of such period, but in case of a proposed increased rate or charge, the Commission may by order require the interested public utility or public utilities to keep accurate account in detail of all amounts received by reason of such increase, specifying by whom and in whose behalf such amounts are paid, and upon completion of the hearing and decision may by further order require such public utility or public utilities to refund, with interest, to the persons in whose behalf such amounts were paid, such portion of such increased rates or charges as by its decision shall be found not justified. At any hearing involving a rate or charge sought to be increased, the burden of proof to show that the increased rate or charge is just and reasonable shall be upon the public utility, and the Commission shall give to the hearing and decision of such questions preference over other questions pending before it and decide the same as speedily as possible.

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FIXING RATES AND CHARGES; DETERMINATION OF COST OF PRODUCTION OR TRANSMISSION

SEC. 206. (a) Whenever the Commission, after a hearing had upon its own motion or upon complaint, shall find that any rate, charge, or classification, demanded, observed, charged, or collected by any public utility for any transmission or sale subject to the jurisdiction of the Commission, or that any rule, regulation, practice, or contract affecting such rate, charge, or classification is unjust, unreasonable, unduly discriminatory or preferential, the Commission shall determine the just and reasonable rate, charge, classification, rule, regulation, practice, or contract to be thereafter observed and in force, and shall fix the same by order.

(b) The Commission upon its own motion, or upon the request of any State commission whenever it can do so without prejudice to the efficient and proper conduct of its affairs, may investigate and determine the cost of the production or transmission of electric energy by means of facilities under the jurisdiction of the Commission in cases where the Commission has no authority to establish a rate governing the sale of such energy.

FURNISHING OF ADEQUATE SERVICE

SEC. 207. Whenever the Commission, upon complaint of a State commission, after notice to each State commission and public utility affected and after opportunity for hearing, shall find that any interstate service of any public utility is inadequate or insufficient, the Commission shall determine the proper, adequate, or sufficient service to be furnished, and shall fix the same by its

order, rule, or regulation: *Provided,* That the Commission shall have no authority to compel the enlargement of generating facilities for such purposes, nor to compel the public utility to sell or exchange energy when to do so would impair its ability to render adequate service to its customers.

ASCERTAINMENT OF COST OF PROPERTY

SEC. 208. (a) The Commission may investigate and ascertain the actual legitimate cost of the property of every public utility, the depreciation therein, and, when found necessary for rate-making purposes, other facts which bear on the determination of such cost or depreciation, and the fair value of such property.

(b) Every public utility upon request shall file with the Commission an inventory of all or any part of its property and a statement of the original cost thereof, and shall keep the Commission informed regarding the cost of all additions, betterments, extensions, and new construction.

USE OF JOINT BOARDS; COOPERATION WITH STATE COMMISSIONS

SEC. 209. (a) The Commission may refer any matter arising in the administration of this Part to a board to be composed of a member or members, as determined by the Commission, from the State or each of the States affected or to be affected by such matter. Any such board shall be vested with the same power and be subject to the same duties and liabilities as in the case of a member of the Commission when designated by the Commission to hold any hearings. The action of such board shall have

such force and effect and its proceedings shall be conducted in such manner as the Commission shall by regulations prescribe. The board shall be appointed by the Commission from persons nominated by the State commission of each State affected, or by the Governor of such State if there is no State commission. Each State affected shall be entitled to the same number of representatives on the board unless the nominating power of such State waives such right. The Commission shall have discretion to reject the nominee from any State, but shall thereupon invite a new nomination from that State. The members of a board shall receive such allowances for expenses as the Commission shall provide. The Commission may, when in its discretion sufficient reason exists therefor, revoke any reference to such a board.

(b) The Commission may confer with any State commission regarding the relationship between rate structures, costs, accounts, charges, practices, classifications, and regulations of public utilities subject to the jurisdiction of such State commission and of the Commission; and the Commission is authorized, under such rules and regulations as it shall prescribe, to hold joint hearings with any State commission in connection with any matter with respect to which the Commission is authorized to act. The Commission is authorized in the administration of this Act to avail itself of such cooperation, services, records, and facilities as may be afforded by any State commission.

(c) The Commission shall make available to the several State commissions such information and reports as may be of assistance in State regulation of public utilities.

Whenever the Commission can do so without prejudice to the efficient and proper conduct of its affairs, it may upon request from a State make available to such State as witnesses any of its trained rate, valuation, or other experts, subject to reimbursement to the Commission by such State of the compensation and traveling expenses of such witnesses. All sums collected hereunder shall be credited to the appropriation from which the amounts were expended in carrying out the provisions of this subsection.

## PART III. LICENSEES AND PUBLIC UTILITIES; PROCEDURAL AND ADMINISTRATIVE PROVISIONS

### ACCOUNTS, RECORDS, AND MEMORANDA

SECTION 301. (a) Every licensee and public utility shall make, keep, and preserve for such periods, such accounts, records of cost-accounting procedures, correspondence, memoranda, papers, books, and other records as the Commission may by rules and regulations prescribe as necessary or appropriate for purposes of the administration of this Act, including accounts, records, and memoranda of the generation, transmission, distribution, delivery, or sale of electric energy, the furnishing of services or facilities in connection therewith, and receipts and expenditures with respect to any of the foregoing: *Provided, however,* That nothing in this Act shall relieve any public utility from keeping any accounts, memoranda, or records which such public utility may be required to keep by or under authority of the laws of any State. The Commission may prescribe a system of accounts to be kept by licensees and public utilities and may

classify such licensees and public utilities and prescribe a system of accounts for each class. The Commission, after notice and opportunity for hearing, may determine by order the accounts in which particular outlays and receipts shall be entered, charged, or credited. The burden of proof to justify every accounting entry questioned by the Commission shall be on the person making, authorizing, or requiring such entry, and the Commission may suspend a charge or credit pending submission of satisfactory proof in support thereof.

(b) The Commission shall at all times have access to and the right to inspect and examine all accounts, records, and memoranda of licensees and public utilities, and it shall be the duty of such licensees and public utilities to furnish to the Commission, within such reasonable time as the Commission may order, any information with respect thereto which the Commission may by order require, including copies of maps, contracts, reports of engineers, and other data, records, and papers, and to grant to all agents of the Commission free access to its property and its accounts, records, and memoranda when requested so to do. No member, officer, or employee of the Commission shall divulge any fact or information which may come to his knowledge during the course of examination of books or other accounts, as hereinbefore provided, except insofar as he may be directed by the Commission or by a court.

(c) The books, accounts, memoranda, and records of any person who controls, directly or indirectly, a licensee or public utility subject to the jurisdiction of the Commission, and of any other company controlled by such person, insofar as they relate to transactions

with or the business of such licensee or public utility, shall be subject to examination on the order of the Commission.

RATES OF DEPRECIATION

SEC. 302. (a) The Commission may, after hearing, require licensees and public utilities to carry a proper and adequate depreciation account in accordance with such rules, regulations, and forms of account as the Commission may prescribe. The Commission may, from time to time, ascertain and determine, and by order fix, the proper and adequate rates of depreciation of the several classes of property of each licensee and public utility. Each licensee and public utility shall conform its depreciation accounts to the rates so ascertained, determined, and fixed. The licensees and public utilities subject to the jurisdiction of the Commission shall not charge to operating expenses any depreciation charges on classes of property other than those prescribed by the Commission, or charge with respect to any class of property a percentage of depreciation other than that prescribed therefor by the Commission. No such licensee or public utility shall in any case include in any form under its operating or other expenses any depreciation or other charge or expenditure included elsewhere as a depreciation charge or otherwise under its operating or other expenses. Nothing in this section shall limit the power of a State commission to determine in the exercise of its jurisdiction, with respect to any public utility, the percentage rate of depreciation to be allowed, as to any class of property of such public utility, or the composite depre-

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ciation rate, for the purpose of determining rates or charges.

(b) The Commission, before prescribing any rules or requirements as to accounts, records, or memoranda, or as to depreciation rates, shall notify each State commission having jurisdiction with respect to any public utility involved, and shall give reasonable opportunity to each such commission to present its views, and shall receive and consider such views and recommendations.

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COMPLAINTS

SEC. 306. Any person, State, municipality, or State commission complaining of any thing done or omitted to be done by any licensee or public utility in contravention of the provisions of this Act may apply to the Commission by petition which shall briefly state the facts, whereupon a statement of the complaint thus made shall be forwarded by the Commission to such licensee or public utility, who shall be called upon to satisfy the complaint or to answer the same in writing within a reasonable time to be specified by the Commission. If such licensee or public utility shall not satisfy the complaint within the time specified or there shall appear to be any reasonable ground for investigating such complaint, it shall be the duty of the Commission to investigate the matters complained of in such manner and by such means as it shall find proper.

INVESTIGATIONS BY COMMISSION; ATTENDANCE OF WITNESS; DEPOSITIONS

SEC. 307 (a) The Commission may investigate any facts, conditions, practices, or

matters which it may find necessary or proper in order to determine whether any person has violated or is about to violate any provision of this Act or any rule, regulation, or order thereunder, or to aid in the enforcement of the provisions of this Act or in prescribing rules or regulations thereunder, or in obtaining information to serve as a basis for recommending further legislation concerning the matters to which this Act relates. The Commission may permit any person to file with it a statement in writing under oath or otherwise, as it shall determine, as to any or all facts and circumstances concerning a matter which may be the subject of investigation. The Commission, in its discretion, may publish or make available to State commissions information concerning any such subject.

(b) For the purpose of any investigation or any other proceeding under this Act, any member of the Commission, or any officer designated by it, is empowered to administer oaths and affirmations, subpena witnesses, compel their attendance, take evidence, and require the production of any books, papers, correspondence, memoranda, contracts, agreements, or other records which the Commission finds relevant or material to the inquiry. Such attendance of witnesses and the production of any such records may be required from any place in the United States at any designated place of hearing. Witnesses summoned by the Commission to appear before it shall be paid the same fees and mileage that are paid witnesses in the courts of the United States.

(c) In case of contumacy by, or refusal to obey a subpena issued to, any persons, the Commission may invoke the aid of any court

of the United States within the jurisdiction of which such investigation or proceeding is carried on, or where such person resides or carries on business, in requiring the attendance and testimony of witnesses and the production of books, papers, correspondence, memoranda, contracts, agreements, and other records. Such court may issue an order requiring such person to appear before the Commission or member or officer designated by the Commission, there to produce records, if so ordered, or to give testimoney touching the matter under investigation or in question; and any failure to obey such order of the court may be punished by such court as a contempt thereof. All process in any such case may be served in the judicial district whereof such person is an inhabitant or wherever he may be found or may be doing business. Any person who willfully shall fail or refuse to attend and testify or to answer any lawful inquiry or to produce books, papers, correspondence, memoranda, contracts, agreements, or other records, if in his or its power so to do, in obedience to the subpena of the Commission, shall be guilty of a misdemeanor and, upon conviction, shall be subject to a fine of not more than $1,000 or to imprisonment for a term of not more than one year, or both.

(d) The testimony of any witness may be taken, at the instance of a party, in any proceeding or investigation pending before the Commission, by deposition, at any time after the proceeding is at issue. The Commission may also order testimony to be taken by deposition in any proceeding or investigation pending before it, at any stage of such proceeding or investigation. Such depositions may be taken before any person authorized

to administer oaths not being of counsel or attorney to either of the parties, nor interested in the proceeding or investigation. Reasonable notice must first be given in writing by the party or his attorney proposing to take such deposition to the opposite party or his attorney of record, as either may be nearest, which notice shall state the name of the witness and the time and place of the taking of his deposition. Any person may be compelled to appear and depose, and to produce documentary evidence, in the same manner as witnesses may be compelled to appear and testify and produce documentary evidence before the Commission, as hereinbefore provided. Such testimony shall be reduced to writing by the person taking the deposition, or under his direction, and shall, after it has been reduced to writing, be subscribed by the deponent.

(e) If a witness whose testimony may be desired to be taken by deposition be in a foreign country, the deposition may be taken before an officer or person designated by the Commission, or agreed upon by the parties by stipulation in writing to be filed with the Commission. All depositions must be promptly filed with the Commission.

(f) Witnesses whose depositions are taken as authorized in this Act, and the person or officer taking the same, shall be entitled to the same fees as are paid for like services in the courts of the United States.

(g) No person shall be excused from attending and testifying or from producing books, papers, correspondence, memoranda, contracts, agreements, or other records and documents before the Commission, or in obedience to the subpena of the Commission or any member thereof or any officer desig-

nated by it, or in any cause or proceeding instituted by the Commission, on the ground that the testimony or evidence, documentary or otherwise, required of him may tend to incriminate him or subject him to a penalty or forfeiture; but no individual shall be prosecuted or subjected to any penalty or forfeiture for or on account of any transaction, matter, or thing concerning which he is compelled to testify or produce evidence, documentary or otherwise, after having claimed his privilege against self-incrimination, except that such individual so testifying shall not be exempt from prosecution and punishment for perjury committed in so testifying.

* * * * *

REHEARINGS; COURT REVIEW OF ORDERS

SEC. 313. (a) Any person, State, municipality, or State commission aggrieved by an order issued by the Commission in a proceeding under this Act to which such person, State, municipality, or State commission is a party may apply for a rehearing within thirty days after the issuance of such order. The application for rehearing shall set forth specifically the ground or grounds upon which such application is based. Upon such application the Commission shall have power to grant or deny rehearing or to abrogate or modify its order without further hearing. Unless the Commission acts upon the application for rehearing within thirty days after it is filed, such application may be deemed to have been denied. No proceeding to review any order of the Commission shall be brought by any person unless such person shall have made application to the Commission for a rehearing thereon.

(b) Any party to a proceeding under this Act aggrieved by an order issued by the Commission in such proceeding may obtain a review of such order in the Circuit Court of Appeals of the United States for any circuit wherein the licensee or public utility to which the order relates is located or has its principal place of business, or in the United States Court of Appeals for the District of Columbia, by filing in such court, within sixty days after the order of the Commission upon the application for rehearing, a written petition praying that the order of the Commission be modified or set aside in whole or in part. A copy of such petition shall forthwith be served upon any member of the Commission and thereupon the Commission shall certify and file with the court a transcript of the record upon which the order complained of was entered. Upon the filing of such transcript such court shall have exclusive jurisdiction to affirm, modify, or set aside such order in whole or in part. No objection to the order of the Commission shall be considered by the court unless such objection shall have been urged before the Commission in the application for rehearing unless there is reasonable ground for failure so to do. The finding of the Commission as to the facts, if supported by substantial evidence, shall be conclusive. If any party shall apply to the court for leave to adduce additional evidence, and shall show to the satisfaction of the court that such additional evidence is material and that there were reasonable grounds for failure to adduce such evidence in the proceedings before the Commission, the court may order such additional evidence to be taken before the Commission and to be adduced upon the hear-

ing in such manner and upon such terms and conditions as to the court may seem proper. The Commission may modify its findings as to the facts by reason of the additional evidence so taken, and it shall file with the court such modified or new findings which, if supported by substantial evidence, shall be conclusive, and its recommendation, if any, for the modification or setting aside of the original order. The judgment and decree of the court, affirming, modifying, or setting aside, in whole or in part, any such order of the Commission, shall be final, subject to review by the Supreme Court of the United States upon certiorari or certification as provided in sections 239 and 240 of the Judicial Code, as amended (U. S. C., title 28, secs. 346 and 347).

(c) The filing of an application for rehearing under subsection (a) shall not, unless specifically ordered by the Commission, operate as a stay of the Commission's order. The commencement of proceedings under subsection (b) of this section shall not, unless specifically ordered by the court, operate as a stay of the Commission's order.

ENFORCEMENT OF ACT, REGULATIONS AND ORDERS

SEC. 314. (a) Whenever it shall appear to the Commission that any person is engaged or about to engage in any acts or practices which constitute or will constitute a violation of the provisions of this Act, or of any rule, regulation, or order thereunder, it may in its discretion bring an action in the proper District Court of the United States, the Supreme Court of the District of Columbia, or the United States courts of any Territory or other place subject to the juris-

diction of the United States, to enjoin such acts or practices and to enforce compliance with this Act or any rule, regulation, or order thereunder, and upon a proper showing a permanent or temporary injunction or decree or restraining order shall be granted without bond. The Commission may transmit such evidence as may be available concerning such acts or practices to the Attorney General, who, in his discretion, may institute the necessary criminal proceedings under this Act.

# APPENDIX B

## *Commercial navigation on New River between Hinton, West Virginia, and Allisonia, Virginia*

[Italics show interstate shipments]

PRIOR TO 1883

| Name of witness | Points of navigation | Products transported | Record pages |
|---|---|---|---|
| 1. Anderson, W. C. | (a) *Eggleston Springs* to *True* | Family and household goods. | 458 |
| | (b) True to Hinton | Lumber and freight of different kinds. | 459 |
| 2. Calloway, M. V. | (a) Hinton from upstream | Lumber, staves, and tobacco. | 482–5 |
| | (b) *Hinton* to *Glen Lyn* | Construction materials | 485 |
| 3. Collins, W | (a) Between *Mack's Creek* and *Hinton*. | Wheat, corn, and merchandise. | 218 |
| | (b) Mack's Creek to New River. | do | 218 |
| | (c) *New River Bridge* to *Hinton* | do | 218 |
| | (d) Dunkert's Bottom to New River Bridge. | Logs and rafts | 218 |
| | (e) Mack's Creek Furnace to New River Depot. | Pig iron | 219 |
| | (f) *New River Depot* to *Hinton* | Miscellaneous cargo | 218–9 |
| | (g) *Narrows* to *Hinton* | Staves | 219 |
| 4. Crowell, J. W | (a) Mack's Creek to Linkous Ferry. | Family and family goods | 251 |
| | (b) Linkous Ferry up and down stream. | Shingles and other products. | 253–4 |
| | (c) *Mack's Creek* to *Hinton* | Government surplus property. | 252 |
| | (d) Boone Furnace to New River Depot. | Pig iron | 253–4 |
| | (e) Mack's Creek to Radford | Rafts and logs | 254 |
| 5. Dalton, W. M | (a) Linkous Ferry up and down stream. | Grain and lumber | 455 |
| | (b) Dunkert's Bottom to Radford. | Logs, rafts, corn, oats, and wheat. | 454–5 |
| 6. Dickinson, J. H | (a) *Glen Lyn* to *Hinton* | Tobacco, wheat, lumber, boating equipment, etc. | 391–6 |
| | (b) *Hinton* to *Glen Lyn* | Merchandise, shoes, sugar, coffee, etc. | 393 |
| | (c) *Hinton* to *Shumate Falls* | Supplies for railroad construction. | 394–5 |
| | (d) *Radford* to *Hinton* | Not specified | 394 |
| | (e) Glen Lyn downstream | Rafts and cross ties | 395 |
| | (f) Between Hinton and Crumps Bottom. | Merchandise | 395–6 |

***Commercial navigation on New River between Hinton, West Virginia, and Allisonia, Virginia*—Continued**

[Italics show interstate shipments]

**PRIOR TO 1883**

| Name of witness | Points of navigation | Products transported | Record pages |
|---|---|---|---|
| 7. Farmer, G. A. | (a) Ingles Ferry up and down stream. | Not specified | 428 |
| | (b) Dunkert's Bottom to Radford. | Logs, ties, and lumber | 430 |
| 8. Flanagan, A. G. | (a) Hinton from upstream | Wheat and tobacco | 466–7 |
| | (b) Hinton upstream | Produce, merchandise, and store goods. | 466–7 |
| 9. Flannagan, J. W. | (a) *Horse Shoe* up to Allisonia and down to *Hinton*. | Wheat, corn, groceries, lumber, and cross ties. | 189 |
| | (b) Allisonia to Horse Shoe | Siding plank | 189–90 |
| | (c) Blast furnaces to N. & W. R. R. Station. | Pig iron | 189–90 |
| 10. Haley, J. D. | (a) Mack's Creek to New River Bridge. | do | 278 |
| | (b) New River Depot from upstream. | Corn, wheat, hogs, lumber, and materials of that kind. | 279–80 |
| | (c) Little River to Radford | Weather boarding | 279–80 |
| 11. Helvey, H. D. | (a) Dudley Ferry to Mouth of Little River. | Lumber | 438 |
| | (b) Horse Shoe from upstream. | do | 438 |
| | (c) Horse Shoe to New River Bridge. | Corn | 433 |
| | (d) Parrot Mines downstream. | Coal | 435 |
| 12. Hoover, J. H. | (a) Hinton from upstream | Merchandise | 416 |
| | (b) *Hinton* to *Mouth of East River*. | 1,000 bushels of meal | 416 |
| 13. Howard, R. L. | (a) Clark's Mine to Mack's Creek. | Iron ore | 208 |
| | (b) Boone Furnace to New River Depot. | Pig iron | 208–9 |
| | (c) Radford to Little Reed Island Creek. | Merchandise, groceries, etc. | 211 |
| | (d) Little Reed Island Creek to Pepper's Ferry. | Shingles | 211 |
| 14. Linkous, E. H. | (a) *Pepper's Tunnel* up and downstream as far as *Hinton*. | Produce | 205–6 |
| 15. Martin, W. M. | (a) Eggleston to New River Depot. | Coal | 451 |
| 16. Meredith, E. C. | (a) Towe's Ferry to Radford | Timber | 270 |
| | (b) Radford downstream | Tanbark | 269 |
| 17. Meredith, L. T. | (a) Downstream to Radford | Lumber, ties, and tanbark | 267 |
| | (b) Past Ingles Ferry from upstream. | Cordwood | 268 |
| | (c) Linkous Ferry downstream. | Lumber | 268 |
| 18. Peterson, D. R. | (a) Mack's Creek to Radford. | Pig iron, lumber, and ties | 446 |

## *Commercial navigation on New River between Hinton, West Virginia, and Allisonia, Virginia*—Continued

[Italics show interstate shipments]

PRIOR TO 1883

| Name of witness | Points of navigation | Products transported | Record pages |
|---|---|---|---|
| 19. Price, W | (a) *Cowan's Mill* to *Hinton* | Coal, corn, wheat, chickens, hogs, and products of all sorts. | 343 |
| | (b) Cowan's Mill downstream. | Coal | 344 |
| | (c) Radford to Barnette's Falls. | Not specified | 346 |
| 20. Roop, C. E | (a) Allisonia to Radford | Lumber, wheat, corn, pig iron, and iron ore. | 510-11 |
| 21. Skaggs, T. G | (a) Between Hinton and Indian Creek. | Staves, lumber, etc | 473 |
| 22. Skeen, H. S | (a) Narrows from upstream and from downstream. | Supplies | 340 |
| | (b) Lurich from upstream | Straw and hay | 340 |
| | (c) Glenlyn to Narrows | Not specified | 340 |
| | (d) Radford to Lurich | Supplies for railroad under construction. | 341 |
| | (e) *Narrows* downstream toward *Hinton*. | Tobacco and produce | 341-2 |
| 23. Smith, L. C | (a) Allisonia up and downstream. | Corn, wheat, eggs, etc | 438 |
| | (b) Between Radford and Allisonia up and downstream. | Wheat, corn, and produce | 439 |
| | (c) Allisonia downstream | Lumber and shingles | 441 |
| 24. Smith, L. M | (a) Lick Creek to Hinton | Wheat, corn, lumber, staves, and tobacco. | 410 |
| | (b) Hinton to Lick Creek | Dry goods, tinware, bacon, merchandise, and supplies for N. & W. R. R. (picks, shovels, tools, and foodstuff). | 410 |
| | (c) Bull Falls to Hinton | Store products, bacon, etc | 410-11 |
| 25. Snidow, A. W | (a) Radford to Narrows | Supplies for soldiers | 295-6 |
| | (b) *Radford* to *Hinton* | Supplies to railroad under construction in 1872. | 295-6 |
| | (c) Above Sinking Creek to Pembroke. | Timber boated or floated | 297 |
| 26. Snodgrass, W. P | (a) Eggleston up and downstream. | Not specified | 302-5 |
| 27. Snyder, A. W | (a) Radford to Narrows | Provisions for soldiers | 261 |
| | (b) *Eggleston* to *Hinton* | Farm products, flour, chickens, and eggs. | 261-2 |
| | (c) *Hinton* to *Eggleston* | Sugar, coffee, molasses, etc. | 261-2 |
| | (d) *New River Bridge* to *Hinton* up and downstream. | Farm products, flour, chickens, and eggs. | 261-2 |

*Commercial navigation on New River between Hinton, West Virginia, and Allisonia, Virginia*—Continued

[Italics show interstate shipments]

PRIOR TO 1883

| Name of witness | Points of navigation | Products transported | Record pages |
|---|---|---|---|
| 28. Webb, G. M. | (a) *Horse Shoe* up as far as New River Bridge and down as far as *Hinton*. | Not specified | 224–5 |
| | (b) Horse Shoe to New River Bridge. | Wheat, 100 bushels a load | 225 |
| | (c) New River Bridge to Horse Shoe. | Plaster | 226 |
| | (d) Radford to Eggleston Springs up and downstream. | Lumber and passengers | 225 |

SUBSEQUENT TO 1883

| | | | |
|---|---|---|---|
| 29. Allison, D. C. | (a) Reed Island Creek to New River Bridge. | Logs | 306 |
| 30. Allison, H. B. | (a) Boone Furnace to Radford. | Pig iron | 307 |
| | (b) Radford to Mouth of Reed Island Creek. | Groceries, sugar, coffee, salt, etc. | 307 |
| | (c) Past New River downstream. | Sawed lumber and shingles. | 307 |
| | (d) Mouth of Reed Island Creek to Clark's Mill. | Rough logs | 308 |
| 31. Breeding, A. S. | (a) Reed Island Furnace to New River Bridge. | Pig iron | 238 |
| | (b) Ingles Ferry to New River Bridge. | Rafted ties | 239 |
| 32. Burks, Z. V. | (a) *Round Bottom Branch* to *Hinton*. | Lumber | 423 |
| | (b) Hinton upstream | Merchandise | 424 |
| | (c) *Mouth of Bluestone* to *Glenlyn*. | Steel | 424 |
| 33. Coleman, T. W. | (a) Horse Shoe downstream | Coal and lumber | 198 |
| | (b) Mack's Creek to New River Depot. | Pig iron | 198 |
| | (c) Pepper's Ferry to Pepper's Tunnel. | Construction supplies | 198 |
| | (d) *Radford* to *Hinton* | Eggs and butter | 200 |
| | (e) Between *Hinton* and *Towe's Ferry*. | Passengers and miscellaneous merchandise. | 203 |
| 34. Calloway, R. | (a) *Hinton* to *East River* | Miscellaneous merchandise and tobacco. | 480–1 |
| | (b) Downstream to Hinton | Supplies | 481 |
| 35. Duncan, E. | (a) Downstream past Hinwassa. | Lumber and pig iron | 271 |
| | (b) Dunkert's Bottom to Radford. | Logs, cross ties | 271 |

## *Commercial navigation on New River between Hinton, West Virginia, and Allisonia, Virginia*—Continued

[Italics show interstate shipments]

SUBSEQUENT TO 1883

| Name of witness | Points of navigation | Products transported | Record pages |
|---|---|---|---|
| 35. Duncan, E. | (c) Upstream past Hiawassa | Chickens, eggs, butter, etc. | 272 |
| | (d) Radford to Dunkert's Bottom. | Paint and supplies | 273 |
| 36. Farley, E. N. | (a) Hinton to Island Creek | Lumber, staves, merchandise, and switch ties. | 400 |
| | (b) Hinton from upstream | Rafts | 400 |
| 37. Graham, J. G. | (a) Mack's Creek to Radford | Timber and logs | 235 |
| | (b) Boone Furnace downstream. | Pig iron | 235 |
| | (c) Reed Island Creek to Radford. | do | 235 |
| 38. Hartsock, E. P. | (a) Little River from upstream. | Ties | 207 |
| 39. Harvey, L. | (a) Radford from upstream | Grain, bacon, lumber, pig iron, etc. | 186 |
| | (b) New River Depot from upstream. | Logs and rafts | 186 |
| 40. Howard, J. H. | (a) Boone Furnace to New River Depot. | Pig iron | 335 |
| | (b) Allisonia to Hiawassa | Stone | 336 |
| 41. James, P. L. | (a) Hinton from upstream | Timber, cross ties, logs, and staves. | 310 |
| | (b) *Narrows* to *Hinton* | Timber | 311 |
| 42. Johnson, H. C. | (a) Warford to Hinton | Railroad stock, switches, ties, car stock, and lumber. | 457 |
| 43. Kenley, C. E. | (a) *Round Bottom* to *Hinton* | Staves, lumber, pulpwood, hay, wheat, corn, tanbark, and rafts. | 401 |
| | (b) *Hinton* to *Round Bottom* | Groceries, etc | 401 |
| | (c) Indian Creek to Hinton | Rafts and lumber | 402 |
| | (d) Crumps Bottom to Hinton. | Rafts | 402 |
| 44. Lane, D. L. | (a) *Round Bottom* to *Hinton* | Lumber, staves, tanbark, shingles, pulpwood, sand, corn, and wheat. | 396–7 |
| | (b) *Hinton* to *Round Bottom* | Merchandise | 7 |
| 45. Lilly, E. W. | (a) *Round Bottom* to *Hinton* | Lumber and produce | 412, 416 |
| | (b) Hinton upstream | Groceries | 412 |
| 46. Martin, J. C. | (a) *Round Bottom* to *Hinton* | Lumber | 402–3 |
| | (b) Between Mercers Salt Works and Hinton. | Staves, corn, tobacco, and merchandise. | 402–3 |
| 47. Medley, J. A. | (a) Hinton to Mercers Salt Works. | Not specified | 372 |
| | (b) *Mercers Salt Works* to *Radford*. | do | 372 |
| | (c) *Mercers Salt Works* to *Glenlyn*. | Merchandise | 372 |
| | (d) *Glen Lyn* to *Mercers Salt Works*. | Fertilizer, household goods, and merchandise. | 373 |

*Commercial navigation on New River between Hinton, West Virginia, and Allisonia, Virginia*—Continued

[Italics show interstate shipments]

SUBSEQUENT TO 1883

| Name of witness | Points of navigation | Products transported | Record pages |
|---|---|---|---|
| 47. Medley, J. A | (e) Mercers Salt Works up and downstream. | Lumber, staves, tobacco, fertilizer, and merchandise. | 372 |
| | (f) *Round Bottom* to *Hinton* | Rafts | 374 |
| | (g) Hinton from upstream | Lumber and staves | 375 |
| | (h) Round Bottom from downstream. | Merchandise | 377 |
| | (i) Radford from downstream. | Not specified | 382 |
| | (j) *Crumps Bottom* to *Radford*. | Household goods | 383 |
| 48. Micou, J | (a) Dunkert's Bottom to New River Bridge. | Small grain, corn, and wheat. | 290–1 |
| 49. Miller, A. E | (a) Lick Creek to Hinton | Staves and lumber | 487–8 |
| | (b) Haynes Ferry to Hinton | do | 489 |
| | (c) Mercers Salt Works to Hinton. | do | 490 |
| 50. Moore, R. H | (a) Boone Furnace to Radford. | Pig iron | 450 |
| | (b) Radford to Allisonia | Shovels, picks, sugar, and coffee. | 449 |
| 51. Owen, J. E | (a) Allisonia to New River Depot. | Iron | 244 |
| | (b) New River Depot to Allisonia. | Bacon | 244 |
| | (c) *Allisonia* to *Hinton* | Not specified | 244 |
| | (d) Clark's ore bank to Hiawassa. | Pig iron | 245 |
| 52. Peters, J. H | (a) *Hinton* to *Glenlyn* | Hardware, supplies, and merchandise for the N. & W. R. R. | 320 |
| | (b) *Hinton* to *Radford* | Merchandise | 320 |
| | (c) Hinton to Mercers Salt Works. | Groceries | 320 |
| | (d) *Glen Lyn* to *Hinton* | Fertilizer and tobacco | 320 |
| 53. Redpath, T. C | (a) Downstream to Little River. | Timber, lumber, ties, logs, and car stock supplies. | 274–5 |
| 54. Reed, J. W | (a) Between Hinton and Bull Falls. | Passengers, tobacco, groceries, dry goods, staves, and hay. | 406 |
| | (b) *Hinton* to *Shumate Falls* | Groceries and supplies for N. & W. R. R. | 406 |
| | (c) Hinton to Indian Creek | Not specified | 407–8 |
| 55. Smith, E. M | (a) *Hinton* to *Glen Lyn* | Groceries and merchandise | 398 |
| | (b) *Round Bottom* to *Hinton* | Staves, lumber, tanbark, and tobacco. | 398 |
| 56. Smith, J. E | (a) Hinton to Mercers Salt Works. | Not specified | 348 |
| | (b) *Hinton* to *Round Bottom* | do | 348 |
| | (c) *Hinton* to *Glen Lyn* | Fertilizer, etc | 348 |
| | (d) *Hinton* to *Narrows* | Not specified | 348 |

*Commercial navigation on New River between Hinton, West Virginia, and Allisonia, Virginia*—Continued

[Italics show interstate shipments]

SUBSEQUENT TO 1883

| Name of witness | Points of navigation | Products transported | Record pages |
|---|---|---|---|
| 56. Smith, J. R | (e) *Crumps Bottom* to *Radford* | Household furniture | 348-9 |
| | (f) Round Bottom downstream. | Rafts | 350 |
| | (g) Mercers Salt Works to Hinton. | Passengers, staves, and lumber. | 350-1 |
| | (h) *Round Bottom* to *Hinton* | Tobacco | 350 |
| 57. Starbuck, H. A | (a) *Sulphur Springs* to *Hinton*. | Lumber | 390 |
| | (b) Indian Creek to Hinton | Staves and lumber | 390 |
| | (c) Crumps Bottom from downstream. | Groceries, merchandise, and passengers. | 390 |
| 58. Stover, I. C | (a) Hinton from upstream | Staves, cross ties, rafts, and lumber. | 477-8 |
| 59. Tomkies, E. E | (a) Hinton from upstream | Staves, lumber, ties, corn, hogs, chickens, eggs, etc. | 493-6 |
| | (b) Hinton upstream | Merchandise, clothing, groceries, feed, and hardware. | 495 |
| 60. Towe, W. H | (a) Radford to Towe's Ferry. | Merchandise, produce, sugar, coffee, oil, etc. | 204 |
| | (b) Past Towe's Ferry from upstream. | Logs | 204 |
| 61. Wauhop, C. H | (a) *Round Bottom* to *Hinton* | Staves | 460-1 |
| 62. Weiss, C. E | (a) Eggleston Springs to Radford. | Not specified | 228 |
| | (b) *Glen Lyn* to *Hinton* (up and down the river). | Staves, butter, eggs, potatoes, sand, etc. | 231 |
| | (c) *Hinton* to *Glen Lyn* | Family and workmen | 231 |

# APPENDIX C

*Index to photographs in volumes II, III, IV, and V, between Hinton, West Virginia, and Allisonia, Virginia*

SECTION I. HINTON, W. VA., TO WYLIE'S SHOALS, VA.

| Approx. Mileage | Petitioner's Photographs | | Respondent's Photographs | | Ex. No. | Description |
|---|---|---|---|---|---|---|
| | Vol. | Plate | Vol. | Plate | | |
| 64 | II | 40 | | | 192 | #1—At C. C. C. Camp near Hinton Ferry. |
| 64.8 | | | V | 1 | 555 | #127—View about 9 miles below Bull Falls. |
| 66 | II | 40 | | | 203 | #3A—New River Ferry. |
| 66.4 | | | V | 2 | 555 | #126—View about 7.4 miles below Bull Falls. |
| 67–64.6 | III | 71 | | | 273 | *Looking south at mile 64.6 about ½ mile above mouth of Greenbrier River.** |
| 67.5 | II | 39 | | | 203 | #3—Haynes Ferry. |
| 67.5–69 | III | 70 | | | 273 | *Looking southeast at mile 67.5.* |
| 68.4 | | | V | 3 | 555 | #125—View about 5.4 miles below Bull Falls. |
| 68.4 | II | 39 | | | 192 | #4—1½ miles above mouth of Bluestone River. |
| | | | | | 192 | #3—1¼ miles above mouth of Bluestone River. |
| | | | | | 192 | #2—1 mile above mouth of Bluestone River. |
| 69 | II | 38 | | | 192 | #5—Pool looking upstream at Land Craft's eddy. |
| | | | | | 192 | #6—Pool looking downstream at Land Craft's eddy. |
| 71 | II | 38 | | | 192 | #7—Pool just above Bertha schoolhouse. |
| 71 | | | V | 4 | 555 | #124—View about 2.8 miles below Bull Falls. |
| 70–73 | III | 69 | | | 273 | *Long view at mile 69.9.* |
| 70–73 | III | 68 | | | 273 | *Looking southeast at mile 69.9.* |
| 73.8 | | | V | 5 | 555 | #123—View of Bull Falls. |
| 73.8 | II | 38 | | | 154 | #7—Bull Falls. |
| 73.8 | II | 37 | | | 150 | #3—Bull Falls. |
| | | | | | 151 | #4—At head of Bull Falls. |
| | | | | | 152 | #5—Bull Falls. |
| | | | | | 153 | #6—Bull Falls. |
| 73.8 | II | 36 | | | 149 | #2—Lower end of Bull Falls. |
| | | | | | 192 | #8—Pool just below Bull Falls rapid. |
| | | | | | 192 | #9—Bull Falls rapid. |
| | | | | | 192 | #10—Pool below Bull Falls rapid. |

* Italics indicate aerial photographs.

*Index to photographs in volumes II, III, IV, and V, between Hinton, West Virginia, and Allisonia, Virginia*

SECTION I. HINTON, W. VA., TO WYLIE'S SHOALS, VA.

| Approx. Mileage | Petitioner's Photographs | | Respondent's Photographs | | Ex. No. | Description |
|---|---|---|---|---|---|---|
| | Vol. | Plate | Vol. | Plate | | |
| 74-73 | III | 67 | | | 273 | *Looking east-southeast at mile 73.2.* |
| 74.1 | II | 35 | | | 203 | #4—Bull Falls Ferry. |
| 74.1 | | | V | 6 | 555 | #122—View about 0.3 mile above Bull Falls. |
| 76-74.3 | III | 66 | | | 273 | *Looking east-southeast at mile 74.3.* |
| 78 | II | 34 | | | 192 | #14—Pool near mouth of Indian Creek. |
| | | | | | 192 | #15—Reefs at Indian Creek. |
| | | | | | 192 | #16—Reefs at Indian Creek. |
| 78 | II | 35 | | | 192 | #11—Pool above Warford's Ferry. |
| | | | | | 192 | #12—Pool above mouth of Indian Creek. |
| | | | | | 192 | #13—Pool toward mouth of Indian Creek—Just below mouth. |
| 79-77 | III | 65 | | | 273 | *Looking southeast at mile 76.8.* |
| 79-78 | III | 64 | | | 273 | *Mouth of Indian Creek looking east from opposite mile 78.* |
| 80 | II | 34 | | | 192 | #17—Harvey Falls rapid. |
| 80 | II | 33 | | | 192 | #18—Pool just above Harvey Falls rapid. |
| | | | | | 192 | #19—Rapid 1 mile below Anderson's Falls rapid. |
| | | | | | 192 | #20—Pool 1 mile below Anderson's Falls rapid. |
| 80 | | | V | 7 | 555 | #121—View of Harvey Falls about 6 miles above Bull Falls. |
| 81-80 | III | 63 | | | 273 | *Looking west at mile 79.7.* |
| 81.3 | | | V | 8 | 555 | #120—View of Anderson's Falls about 7.5 miles above Bull Falls. |
| 82.6 | | | V | 9 | 555 | #119—View about 8.8 miles above Bull Falls. |
| 82.9 | II | 33 | | | 203 | #5—Shanklin Ferry. |
| 83 | | | V | 10 | 555 | #118—View about 9.2 miles above Bull Falls. |
| 83.5 | | | V | 11 | 555 | #117—View about 9.7 miles above Bull Falls. |
| 84-82 | III | 54A | | | 273 | *Looking southeast at mile 82.* |
| 84-82 | III | 62 | | | 273 | *Looking south-southeast at mile 83.2.* |
| 85-82 | III | 61 | | | 273 | *A longer view southeast at mile 83.2.* |
| 86-83 | III | 60 | | | 273 | *Looking east-southeast at mile 84.8.* |
| 86.9 | | | V | 12 | 555 | #116—View about 13.1 miles above Bull Falls. |
| 87.2 | II | 32 | | | 203 | #5B—Lawrence Ferry. |
| 87.2 | | | V | 13 | 592 | #113—View at Round Bottom Creek. |
| 87.2 | | | V | 14 | 592 | #111—View at Round Bottom Creek. |
| 87.2 | | | V | 15 | 592 | #110—View at Round Bottom Creek. |
| 87.2 | | | V | 16 | 592 | #109—View at Round Bottom Creek. |
| 89-87 | III | 59 | | | 273 | *Looking south-southeast at mile 86.7.* |
| 89 | | | V | 17 | 555 | #115—View of Wylie Falls. |
| 89 | | | V | 18 | 555 | #114—View of Wylie Falls. |
| 89 | | | V | 19 | 592 | #108—View of Wylie Falls. |

*Index to photographs in volumes II, III, IV, and V, between Hinton, West Virginia, and Allisonia, Virginia*

SECTION I. HINTON, W. VA., TO WYLIE'S SHOALS, VA.

| Approx. Mileage | Petitioner's Photographs | | Respondent's Photographs | | Ex. No. | Description |
|---|---|---|---|---|---|---|
| | Vol. | Plate | Vol. | Plate | | |
| 89 | | | V | 20 | 592 | #107—View of Wylie Falls. |
| 89 | | | V | 21 | 592 | #106—View of Wylie Falls. |
| 89 | II | 32 | | | 146 | #1—Wylie Falls. |
| | | | | | 192 | #21—Wylie Falls. |
| 89.1 | II | 32 | | | 145 | #2—Wylie Shoals. |
| 89.1 | II | 31 | | | 147 | #1—Wylie Shoals. |
| 90-88 | III | 58 | | | 273 | *Looking southeast at mile 88.* |

SECTION II. WYLIE SHOALS, VA., TO RADFORD, VA.

| | | | | | | |
|---|---|---|---|---|---|---|
| 89.3 | | | V | 22 | 592 | #105—View about 4.9 miles below Glen Lyn, Va. |
| 89.7 | | | V | 23 | 592 | #104—View about 4.5 miles below Glen Lyn, Va. |
| 90 | | | V | 24 | 592 | #103—View about 4.3 miles below Glen Lyn, Va. |
| 90.8 | | | V | 25 | 592 | #102—View about 3.5 miles below Glen Lyn, Va. |
| 90.8 | II | 31 | | | 147 | #2—Shoal No. 2. |
| | | | | | 146 | #3—Shoal No. 2. |
| 92.8 | II | 30 | | | 192 | #22—Pool looking below Shumate's Falls rapid. |
| | | | | | 192 | #23—Pool looking downstream below Shumate's Falls rapid. |
| 93 | | | V | 26 | 592 | #101—View of Shumate's Falls upstream. |
| 93 | | | V | 27 | 592 | #100—View of Shumate's Falls. |
| 93 | | | V | 28 | 592 | #99—View of Shumate's Falls. |
| 93 | II | 31 | | | 146 | #4—Shumate's Falls. |
| 93 | II | 30 | | | 192 | #24—Shumate's Falls rapids. |
| | | | | | 192 | #25—Panorama of Shumate's Falls. |
| 93 | II | 29 | | | 147 | #3—Rapid at Shumate's Falls. |
| 93.2 | | | V | 29 | 592 | #98—About 1 mile below Glen Lyn, Va. |
| 94-91 | III | 57 | | | 273 | *Looking south-southwest at mile 91.1.* |
| 94.1 | II | 29 | | | 147 | #4—East River Shoals. |
| 94.2 | | | V | 30 | 549 | #1—Looking down New River just above Glen Lyn, Va. |
| 94.5 | | | V | 31 | 549 | #2—At first bend above Glen Lyn, Va. |
| 95-94 | III | 56 | | | 273 | *Looking east at mile 94.* |
| 96.3 | | | V | 32 | 549 | #3—Just below Lurich. |
| 97 | | | II | 33 | 592 | #97—About 2.5 miles above Glen Lyn, Va. |
| 97.5 | II | 29 | | | 147 | #5—Rich Creek Shoals. |
| | | | | | 146 | #5—Rich Creek Shoals. |
| 97-95 | III | 56 | | | 273 | *Looking northeast at mile 95.1.* |
| 98.5 | | | V | 35 | 549 | #5—About 1 mile upstream from Rich Creek, Va. |
| 100 | | | V | 34 | 549 | #4—Looking up through The Narrows. |

*Index to photographs in volumes II, III, IV, and V, between Hinton, West Virginia, and Alliconia, Virginia*

SECTION II. WYLIE SHOALS, VA., TO RADFORD, VA.

| Approx. Mileage | Petitioner's Photographs | | Respondent's Photographs | | Ex. No. | Description |
|---|---|---|---|---|---|---|
| | Vol. | Plate | Vol. | Plate | | |
| 100 | | | V | 36 | 592 | #96—View of The Narrows about 6 miles above Glen Lyn, Va. |
| 100 | | | V | 37 | 592 | #95—View of The Narrows about 6 miles above Glen Lyn, Va. |
| 100 | | | V | 38 | 549 | #6—Downstream portion of lower falls in The Narrows. |
| 100 | | | V | 39 | 549 | #7—Upstream portion of lower falls in The Narrows. |
| 100 | | | V | 40 | 549 | #8—Principal Falls in The Narrows. |
| 100 | | | V | 41 | 549 | #9—Principal Falls in The Narrows. |
| 100 | | | V | 42 | 549 | #10—Principal Falls in The Narrows. |
| 100 | | | V | 43 | 549 | #11—Principal Falls in The Narrows. |
| 100 | | | V | 44 | 549 | #12—Downstream portion of rapids upstream from the Principal Falls at The Narrows. |
| 100 | | | V | 45 | 549 | #13—Rapids upstream from the subject of photo 12. |
| 100 | II | 28 | | | 147 | #6—Rapids at Peter's Mountain Falls. |
| | | | | | 192 | #26—Pool looking downstream just below Peter's Mountain Falls rapid. |
| | | | | | 192 | #27—Peter's Mountain Falls rapid. |
| 103 | II | 28 | | | 146 | #5—Shoal No. 8. |
| 100-99 | III | 54 | | | 273 | *Looking southeast at mile 99.* |
| 102-100 | III | 53 | | | 273 | *Looking southeast at mile 100.* |
| 104-102 | III | 52 | | | 273 | *Looking east at mile 102; river in view to about mile 107.* |
| 104.3 | II | 27 | | | 146 | #7—Shoal No. 9. |
| 104.8 | | | V | 46 | 549 | #14—Rapids in New River at west end of Pearis Island at Bluff City, Va. |
| 105.6 | | | V | 47 | 592 | # 94—View from left bank, about .6 mile above Bluff City, Va. |
| 105-108 | III | 51 | | | 273 | *Looking northeast at mile 108.6.* |
| 106 | II | 27 | | | 193 | #2—Pool at Pearisburg Station. |
| 106.5 | | | V | 48 | 592 | #93—View from left bank, about 1.5 miles above Bluff City, Va. |
| 106.6 | II | 27 | | | 146 | #8—Shoal No. 10. |
| 106.6 | | | V | 49 | 592 | #92—View from left bank, about 1.6 miles above Bluff City, Va. |
| 106.7 | | | V | 50 | 592 | #91—View from left bank about 1.7 miles above Bluff City, Va. |
| 106.8 | | | V | 51 | 592 | #90—View from left bank, about 1.8 miles above Bluff City, Va. |
| 106.9 | | | V | 52 | 592 | #89—View from left bank, about 1.9 miles above Bluff City, Va. |
| 106.9 | | | V | 53 | 592 | #88—View from left bank, about 1.9 miles above Bluff City, Va. |
| 107 | II | 27 | | | 146 | #9—Shoal No. 11. |
| 107 | | | V | 54 | 592 | #87—View from left bank, about 2 miles above Bluff City, Va. |

*Index to photographs in volumes II, III, IV, and V, between Hinton, West Virginia, and Allisonia, Virginia*

SECTION II. WYLIE SHOALS, VA., TO RADFORD, VA.

| Approx. Mileage | Petitioner's Photographs | | Respondent's Photographs | | Er. No. | Description |
|---|---|---|---|---|---|---|
| | Vol. | Plate | Vol. | Plate | | |
| 107.2 | | | V | 55 | 592 | #86—View from left bank, about 2.2 miles above Bluff City, Va. |
| 107.2 | | | V | 56 | 592 | #85—View from left bank, about 2.2 miles above Bluff City, Va. |
| 107.6 | | | V | 57 | 592 | #84—View from left bank, about 2.6 miles above Bluff City, Va. |
| 108.0 | | | V | 58 | 592 | #83—View from left bank at Curve, Va. |
| 109.0 | II | 26 | | | 146 | #10—Shoal No. 12. |
| | | | | | 146 | #11—Shoal No. 13. |
| 109.0 | | | V | 59 | 592 | #82—View from left bank, about 4 miles above Bluff City, Va. |
| 110.0 | | | V | 60 | 592 | #81—View from left bank, about 4.7 miles above Bluff City Va. |
| 110.0 | | | V | 61 | 592 | #80—View from left bank, about 4.7 miles above Bluff City, Va. |
| 110.5 | | | V | 62 | 592 | #79—View from left bank, about 4.8 miles above Bluff City, Va. |
| 110.5 | | | V | 63 | 592 | #78—View from left bank, about 4.9 miles above Bluff City, Va. |
| 111 | | | V | 64 | 549 | #15—Curves of New River just below Klotz, Va. |
| 111–112 | II | 26 | | | 146 | #12—Shoal No. 15. |
| | | | | | 146 | #13—Snidow's Ferry Bar. |
| 111.5 | | | V | 65 | 592 | #77—View from Tipple of Virginia Limestone Co. at Klotz, Va. |
| 111.8 | | | V | 66 | 549 | #16—New River at Ripplemead, Va., looking upstream. |
| 112–110 | III | 50 | | | 273 | *Looking southeast at mile 110.5.* |
| 112.5 | II | 25 | | | 193 | #3—View of rapids and shoals ¾ mile above Ripplemead Bridge. |
| 113–121 | III | 49 | | | 273 | *Looking nearly east at mile 113.3. River visible almost to mile 121 just above Eggleston.* |
| 114 | II | 25 | | | 193 | #4—Pool just below rapids at Pembroke. |
| 114.7 | II | 25 | | | 147 | #7—Little Stony Creek Bar at Pembroke Highway Bridge from left bank. |
| | | | | | 146 | #14—Little Stony Creek Bar. |
| 114.7 | | | V | 67 | 592 | #76—View from bridge at Pembroke, Va. |
| 115.7 | | | V | 68 | 592 | #75—View from right bank, about 4.5 miles below Eggleston, Va. |
| 115.9 | | | V | 69 | 592 | #74—View from right bank, about 4.5 miles below Eggleston, Va. |
| 116.0 | | | V | 70 | 592 | #73—View from right bank, about 4.5 miles below Eggleston, Va. |
| 116.3 | | | V | 71 | 592 | #72—View from right bank, about 4.1 miles below Eggleston, Va. |
| 117–115 | III | 49A | | | 273 | *Looking north-northeast from opposite mile 116.* |

*Index to photographs in volumes II, III, IV, and V, between Hinton, West Virginia, and Allisonia, Virginia*

SECTION II. WYLIE SHOALS, VA., TO RADFORD, VA.

| Approx. Mileage | Petitioner's Photographs | | Respondent's Photographs | | Ex. No. | Description |
|---|---|---|---|---|---|---|
| | Vol. | Plate | Vol. | Plate | | |
| 117-119 | III | 48 | | | 273 | *Looking northwestward at mile 118.3, showing bend in river about halfway between Eggleston and Pembroke.* |
| 117.5 | | | V | 72 | 592 | #71—View from right bank, about 2.9 miles below Eggleston, Va. |
| 117.7 | | | V | 73 | 592 | #70—View from right bank, about 2.7 miles below Eggleston, Va. |
| 117.9 | | | V | 74 | 592 | #69—View from right bank, about 2½ miles below Eggleston, Va. |
| 118 | II | 24 | | | 147 | #8—Rapid at Snidow's Falls—Main bar from right bank. |
| | | | | | 147 | #9—Rapid at Snidow's Falls—Upper end from left bank. |
| 118.4 | | | V | 75 | 592 | #68—View from right bank, about 2 miles below Eggleston, Va. |
| 118.4 | | | V | 76 | 592 | #67—View from right bank, about 2 miles below Eggleston, Va. |
| 118.5 | | | V | 77 | 592 | #66—View from right bank, about 1.9 miles below Eggleston, Va. |
| 118.6 | | | V | 78 | 592 | #65—View from right bank, about 1.8 miles below Eggleston, Va. |
| 118.7 | | | V | 79 | 592 | #64—View from right bank about 1.7 miles below Eggleston, Va. |
| 118.7 | | | V | 80 | 592 | #63—View from right bank, about 1.7 miles below Eggleston, Va. |
| 119.4 | | | V | 81 | 592 | #62—View from right bank, about 1 mile below Eggleston, Va. |
| 119.4 | II | 24 | | | 147 | #10—Lower Sinking Creek Bar from right bank. |
| 119.6 | II | 23 | | | 146 | #16—Upper Sinking Creek Bar. |
| 120-121 | III | 47 | | | 273 | *Looking southeast at mile 119.1, Eggleston, Va.* |
| 121 | II | 23 | | | 146 | #18—Shoal No. 23. |
| | | | | | 146 | #17—Eggleston Shoals. |
| 121 | | | V | 83 | 554 | #60—View from right bank about a mile above Eggleston, Va. |
| 121.3 | | | V | 82 | 592 | #61—View from left bank, about 1.3 miles above Eggleston, Va. |
| 123 | | | V | 84 | 554 | #59—View from right bank about ¼ mile above Goodwin's Ferry. |
| 123 | II | 23 | | | 146 | #19—Shoal No. 24. View from left bank. |
| 123.6 | II | 22 | | | 147 | #13—Shoal No. 26 from right bank. |
| 123.3 | II | 22 | | | 147 | #12—Bear Spring Shoal from right bank. |
| 123.1 | II | 22 | | | 147 | #11—Shoal No. 24 from left bank. |
| 124 | | | V | 85 | 549 | #17—Rapids at Berton, Va. Stream flow is from viewer's right to left. |
| 124 | | | V | 86 | 549 | #18—Upper rock outcrop at rapids in New River at Berton, Va. Stream flow is from viewer's right to left. |

*Index to photographs in volumes II, III, IV, and V, between Hinton, West Virginia, and Allisonia, Virginia*

SECTION II. WYLIE SHOALS, VA., TO RADFORD, VA.

| Approx. Mileage | Petitioner's Photographs | | Respondent's Photographs | | Ex. No. | Description |
|---|---|---|---|---|---|---|
| | Vol. | Plate | Vol. | Plate | | |
| 124 | | | V | 87 | 549 | #19—Lower outcrop at rapids in New River at Berton, Va. Stream flow is from viewer's right to left. |
| 124 | | | V | 88 | 549 | #20—Rock outcrops forming portions, further upstream of the rapids at Berton, Va. Flow is from viewer's right to left. |
| 124 | | | V | 89 | 549 | #21—Looking up New River from point upstream from the Rapids shown from No. 20. |
| 125 | | | V | 90 | 549 | #22—The Big Falls of New River in the Gap at the upstream boundary of Giles County. Flow is from viewer's right to left. |
| 125 | | | V | 92 | 549 | #24—Looking upstream at easterly portion of the Big Falls at the Gap. |
| 125 | | | V | 93 | 549 | #25—Looking upstream at central portion of the Big Falls in the Gap. |
| 125 | | | V | 94 | 549 | #26—Looking eastwardly across New River and slightly upstream at point just upstream from the Gap. |
| 125 | | | V | 95 | 554 | #58—View of Big Falls from the left bank. |
| 125 | | | V | 96 | 554 | #57—View of Big Falls from left bank, being approximately at the Pulaski-Giles County Line. |
| 125 | II | 21 | | | 146 | #21—Big Walker Mountain Falls. |
| 123-124 | III | 46 | | | 273 | *Looking south at mile 123.4; Gap mountain at left; Walker mountain at right; Clyde Mountain beyond.* |
| 125.3 | | | V | 97 | 549 | #27—Succession of rock outcrops at Dry Branch, looking upstream. |
| 125.3 | | | V | 98 | 554 | #56—View from left bank about ¼ mile above Big Falls. |
| 126 | II | 21 | | | 147 | #16—Submerged ledges of Sifford's "Falls." |
| 126 | II | 21 | | | 147 | #15—Submerged ledges of Sifford's "Falls" |
| 126 | II | 21 | | | 147 | #14—Lower portion of shoal at Sifford's "Falls" looking downstream from right bank. |
| 126 | II | 20 | | | 147 | #17—Ledge at Sifford's "Falls"—shoal from right bank. |
| 126 | II | 20 | | | 193 | #5—Sifford's Falls and shoals from right bank. |
| 126 | II | 20 | | | 193 | #6—Poling boat through Sifford's Falls. |
| 126.2 | II | 20 | | | 203 | #6—McCoy Ferry. |
| 127-125 | II | 19 | | | 147 | #19—Upper Sifford's Shoal No. 29. |
| 127-125 | II | 19 | | | 147 | #18—Submerged ledges at head of Sifford's "Falls"—shoal looking downstream from right bank. |
| 128-131 | III | 45 | | | 273 | *Looking south-southeast at mile 127.* |

*Index to photographs in volumes II, III, IV, and V, between Hinton, West Virginia, and Allisonia, Virginia*

SECTION II. WYLIE SHOALS, VA., TO RADFORD, VA.

| Approx. Mileage | Petitioner's Photographs | | Respondent's Photographs | | Ex. No. | Description |
|---|---|---|---|---|---|---|
| | Vol. | Plate | Vol. | Plate | | |
| 128.5 | | | V | 99 | 554 | #55—View across from right bank at McCoy Railroad Station. |
| 129 | | | V | 100 | 554 | #54—View upstream taken from an elevation on the left bank at Parrott Mine. |
| 129 | | | V | 101 | 554 | #53—View across River from left bank taken at Parrott Mine. |
| 130.3 | II | 19 | | | 146 | #22—Whitethorne Ferry Shoal. View from left bank. |
| 132.8 | II | 19 | | | 193 | #7—Pool below Whitethorne Ferry. |
| 132.8 | II | 18 | | | 193 | #6—Pool below Whitethorne Ferry. |
| 132.8 | II | 18 | | | 203 | #8—Whitethorne Ferry. |
| 134 | II | 18 | | | 146 | #23—Shoal No. 31. View from left bank. |
| 134-138 | III | 44 | | | 273 | #44—*Looking east northeast along second big bend of river below Radford.* |
| 135 | | | V | 103 | 554 | #52—View across river from left bank about 10 miles below Radford. |
| 135 | | | V | 104 | 554 | #51—View from left bank about 10 miles below Radford. |
| 135 | | | V | 105 | 554 | #50—View across river from left bank about 10 miles below Radford. |
| 136.6 | II | 18 | | | 147 | #20—Shoal No. 32 from right bank. |
| 137 | II | 17 | | | 193 | #37—Pool below Barnette's Falls. |
| 137 | II | 17 | | | 146 | #24—Shoal No. 32, at mouth of Strouble's Creek. |
| 138 | II | 17 | | | 147 | #24—Rapid at Barnette's 'Falls' looking downstream from right bank. |
| 138 | II | 17 | | | 147 | #23—Rapid at Barnette's 'Falls' looking upstream from right bank. |
| 138 | II | 16 | V | 102 | 193 | #36—Barnette's Falls from downstream. |
| 139.7 | II | 16 | | | 146 | #27—Lower Pepper Fa.. View from left bank downstream. |
| 140.3 | II | 16 | | | 193 | #35—Little Pepper Falls taken from downstream. |
| 140.3 | II | 16 | | | 193 | #34—Little Pepper Falls taken from upstream. |
| 140-143 | III | 43 | | | 273 | *Looking southeast at mile 138; bend in river just below Radford.* |
| 141 | | | V | 107 | 554 | #48—View from left bank, about ½ Mi. below Walton "Y." |
| 141.3 | | | V | 106 | 554 | #49—View upstream from left bank at about ½ Mi. below Walton "Y." |
| 142 | II | 15 | | | 147 | #28—Crab Creek Shoals from left bank. |
| 142 | II | 15 | | | 146 | #28—Crab Creek Shoals. View from left bank looking across ledge. |
| 142.8 | II | 15 | | | 146 | #29—Shoal No. 37 above Crab Creek. |
| 143.0 | II | 15 | | | 146 | #25—Shoal No. 39 at Radford. View from left bank across river. |
| 144 | II | 14 | | | 193 | #33—In pool 1 mile below Radford. |
| 144 | II | 14 | | | 146 | #26—View from river bank across Shoal No. 40. |

*Index to photographs in volumes II, III, IV, and V, between Hinton, West Virginia, and Allisonia, Virginia*

## SECTION II. WYLIE SHOALS, VA., TO RADFORD, VA.

| Approx. Mileage | Petitioner's Photographs | | Respondent's Photographs | | Ex. No. | Description |
|---|---|---|---|---|---|---|
| | Vol. | Plate | Vol. | Plate | | |
| 144 | II | 14 | | | 203 | #10—Dudley Ferry, Mile 144.5. |
| 144 | II | 14 | | | 193 | #9—Looking upstream from boat in pool below Radford. |
| 144 | II | 13 | | | 193 | #11—Looking upstream from boat in pool below Radford. |
| 144 | II | 13 | | | 193 | #10—Looking upstream from boat in pool below Radford. |
| 144.5 | | | IV | 12 | 554 | #47—View downstream from Highway Bridge at Radford. |
| 145 | | | IV | 12 | 554 | #46—View across river from left bank taken at a point opposite the city of Radford. |
| 145 | II | 13 | | | 147 | #25—Radford Shoal No. 41 from right bank. |
| 146-144 | III | 42 | | | 273 | *East Radford, Va. Looking southwest.* |

## SECTION III. RADFORD, VA., TO ALLISONIA, VA.

| | | | | | | |
|---|---|---|---|---|---|---|
| 146-147 | III | 41 | | | 273 | *Radford, Virginia, looking southwest at mile 144.2.* |
| 148.7 | II | 13 | | | 203 | #11—Ingles Ferry. |
| 148.7 | II | 12 | | | 193 | #12—Navigating rapids at Ingles Ferry. |
| 148.7 | | | IV | 12 | 554 | #45—View from the left bank of Ingles Ferry just below Ingles Falls. |
| 149.2 | | | IV | 11 | 554 | #43—View across river of Ingles Falls from left bank about ½ Mi. above Ingles Ferry.<br>#44—View of Ingles Falls from left bank, about ½ Mi. above Ingles Ferry. |
| 150-148 | III | 40 | | | 273 | *Looking south at mile 147.47. Ingles Ferry in foreground.* |
| 150-152 | III | 39 | | | 273 | *Looking southwest across mouth of Little River to dam site near upper end of quarry excavation.* |
| 150-151 | III | 38 | | | 273 | *Looking across New River at mile 149 and up Little River.* |
| 150.5 | II | 12 | | | 193 | #13—View of mouth of Little River and A. E. P. Co. dam site.<br>#14—View from right bank of New River just below mouth Little River showing right abutment of A. E. P. Co. dam site. |
| 151 | II | 11 | | | 193 | #17—Cofferdam on right bank at A. E. P. Co. dam site.<br>#19—Pool just above A. E. P. Co. dam site at Radford.<br>#32—Pool just above A. E. P. Co. dam site. |

*Index to photographs in volumes II, III, IV, and V, between Hinton, West Virginia, and Allisonia, Virginia*

SECTION III. RADFORD, VA., TO ALLISONIA, VA.

| Approx. Mileage | Petitioner's Photographs | | Respondent's Photographs | | Ex. No. | Description |
|---|---|---|---|---|---|---|
| | Vol. | Plate | Vol. | Plate | | |
| 151 | II | 12 | | | 193 | #16—Right abutment of A. E. P. Co. dam site and portion of rock quarry. |
| 152-154 | III | 37 | | | 273 | *Looking southwest at mile 151 about a mile and a half above Radford dam site.* |
| 153 | III | 36 | | | 273 | *Looking north at mile 153; Cecil Ferry in middle background.* |
| 154.3 | II | 11 | | | 203 | #12—Cecils Ferry. |
| 155 | | | IV | 11 | 554 | #42—View across river from left bank at old No. 6 dam site 4 Mi. above present site. |
| | | | | | | #43—View from left bank at old No. 6 dam site. |
| 157 | | | IV | 10 | 554 | #40—View looking upstream from a point on a high bluff about ¼ Mi. below mouth of Peak Creek. |
| 157-159 | III | 35 | | | 273 | *Looking downstream, foreground at mile 157.7, shows about same stretch of river as No. 34, but in opposite direction.* |
| 157-159 | III | 34 | | | 273 | *Looking south at mile 157.7 just below Peak Creek.* |
| 157 | II | 10 | | | 193 | #20—River looking upstream and pool 2 miles below Linkous Ferry. |
| 157.3 | II | 10 | | | 203 | #13—Towes Ferry. |
| 158 | | | IV | 10 | 554 | #39—View upstream from left bank about 1 Mi. below Linkous Ferry. |
| 158.6 | | | IV | 10 | 554 | #38—View across river from left bank about ¾ Mi. below Linkous Ferry. |
| 159 | | | IV | 10 | 554 | #37—View across river from left bank at a point immediately below Linkous Ferry. |
| 159 | II | 10 | | | 203 | #14—Linkous Ferry, Mi. 158.6, New R. Ferry shown on opposite side of river. |
| 159 | | | IV | 9 | 554 | #36—View looking across and upstream from left bank at a point just above Linkous Ferry. |
| 159 | II | 10 | | | 193 | #21—Shoals just above Linkous Ferry. |
| 159 | II | 9 | | | 193 | #31—Rapids just above Linkous Ferry. |
| 159.5 | II | 9 | | | 193 | #30—Pool ½ mile above Linkous Ferry. |
| 159.9 | II | 9 | | | 203 | #15—Whitt Ferry. |
| 160-163 | III | 33 | | | 273 | *Looking southwest at mile 159.1; Whitt's Ferry in left foreground.* |
| 160.5 | | | IV | 9 | 554 | #35—View upstream from river about ¼ Mi. above Whitt's Ferry. |
| 161 | | | IV | 9 | 554 | #34—View across and upstream from left bank about 1 mile above Whitt's Ferry. |
| 162 | | | IV | 9 | 554 | #33—View from left bank about ½ Mi. below Wheeler Branch Ferry. |
| 162.1 | | | IV | 8 | 554 | #31—View across river from left bank about ½ Mi. below Wheeler Branch Ferry. |

*Index to photographs in volumes II, III, IV, and V, between Hinton, West Virginia, and Allisonia, Virginia*

SECTION III. RADFORD, VA., TO ALLISONIA, VA.

| Approx. Mileage | Petitioner's Photographs | | Respondent's Photographs | | Ex. No. | Description |
|---|---|---|---|---|---|---|
| | Vol. | Plate | Vol. | Plate | | |
| 162.1 | | | IV | 8 | 554 | #32—View from left bank across river at a point about ¾ Mi. below Wheeler Branch Ferry. |
| 162.2 | | | IV | 5 | 554 | #30—View from left bank about ¼ Mi. below Wheeler Branch Ferry. |
| 163.7 | II | 9 | | | 193 | #22—Rapids 1 mile below Coxe's Ferry. |
| 163.7 | II | 8 | | | 193 | #29—View of rapids 1 mile below Coxe's Ferry. |
| 163.7 | | | IV | 8 | 554 | #29—View across stream from right bank about ¾ Mi. below Owen's Ferry. |
| 163.7 | | | IV | 7 | 554 | #26—View upstream from right bank about ¾ Mi. below Owen's Ferry. |
| 163.7 | | | IV | 7 | 554 | #27—View upstream from right bank about ¾ Mi. below Owen's Ferry. |
| | | | | | | #28—View upstream from left bank about ¾ Mi. below Owen's Ferry. |
| 164.2 | | | IV | 7 | 554 | #25—View across river from right bank about ¼ Mi. below Owen's Ferry. |
| 165–163 | III | 32 | | | 273 | *Looking west southwest; foreground at mile 161.3 about a mile below Macks Creek.* |
| 165 | II | 8 | | | 193 | #24—Pool above rapids shown in No. 22. |
| | | | | | | #23—Pool above rapids shown in E-6 (No. 22). |
| 166.5 | | | IV | 6 | 554 | #24—View from right bank about 3 Mi. below Clark's Ferry. |
| 167 | | | IV | 6 | 554 | #23—View upstream from right bank at Carnahan place about 2 miles below Clark's Ferry. |
| 167.5 | | | IV | 6 | 554 | #22—View from right bank downstream about 1 mile below Clark's Mill. |
| 168.0 | | | IV | 6 | 554 | #21—View from left bank just above Delton. |
| 168.5 | | | IV | 5 | 554 | #20—View upstream from right bank immediately above Delton. |
| 169.0 | | | IV | 5 | 554 | #19—View across river from right bank about ¼ Mi. above Delton. |
| 170.0 | II | 8 | | | 193 | #25—Pool just below Hiwassee bridge. |
| 170.7 | II | 7 | | | 203 | #18—Clark's Ferry. |
| 173–170 | III | 30 | | | 273 | *Looking southwest at mile 168.4 about a mile below Allisonia.* |
| 173.5 | | | IV | 5 | 554 | #18—View across river from left bank just below gauging station at Allisonia. |
| 173.5 | II | 7 | | | 193 | #26—Pool at Allisonia. |
| | | | | | | #27—Boat on right bank of New River at Allisonia. |
| | | | | | | #28—Boat on right bank of New River at Allisonia. |
| 175–175 | III | 29 | | | 273 | *Looking west at Allisonia, mile 170.2 about 4 p. m., April 27.* |

GAULEY RIVER

GAULEY BRIDGE

ELK RIVER

CHARLESTON

OHIO RIVER

KANAWHA

POINT PLEASANT

W. VA.
OHIO

GREENBRIER R.

W. VA.

HINTON

ELK RIVER

ELKSTONE RIVER

RAILROADS AS SHOWN ON EXHIBIT
548 INTRODUCED BY A. E. P. CO.

KEY MAP

VA. N. C.

ALLISONIA

GREENBRIER RIVER

Indian Creek

McDANIEL'S FALLS

WILEY'S SHOALS

VIRGINIA
WEST VIRGINIA

PETER MOUNTAIN FALLS

NARROWS

RIPPLEMEAD

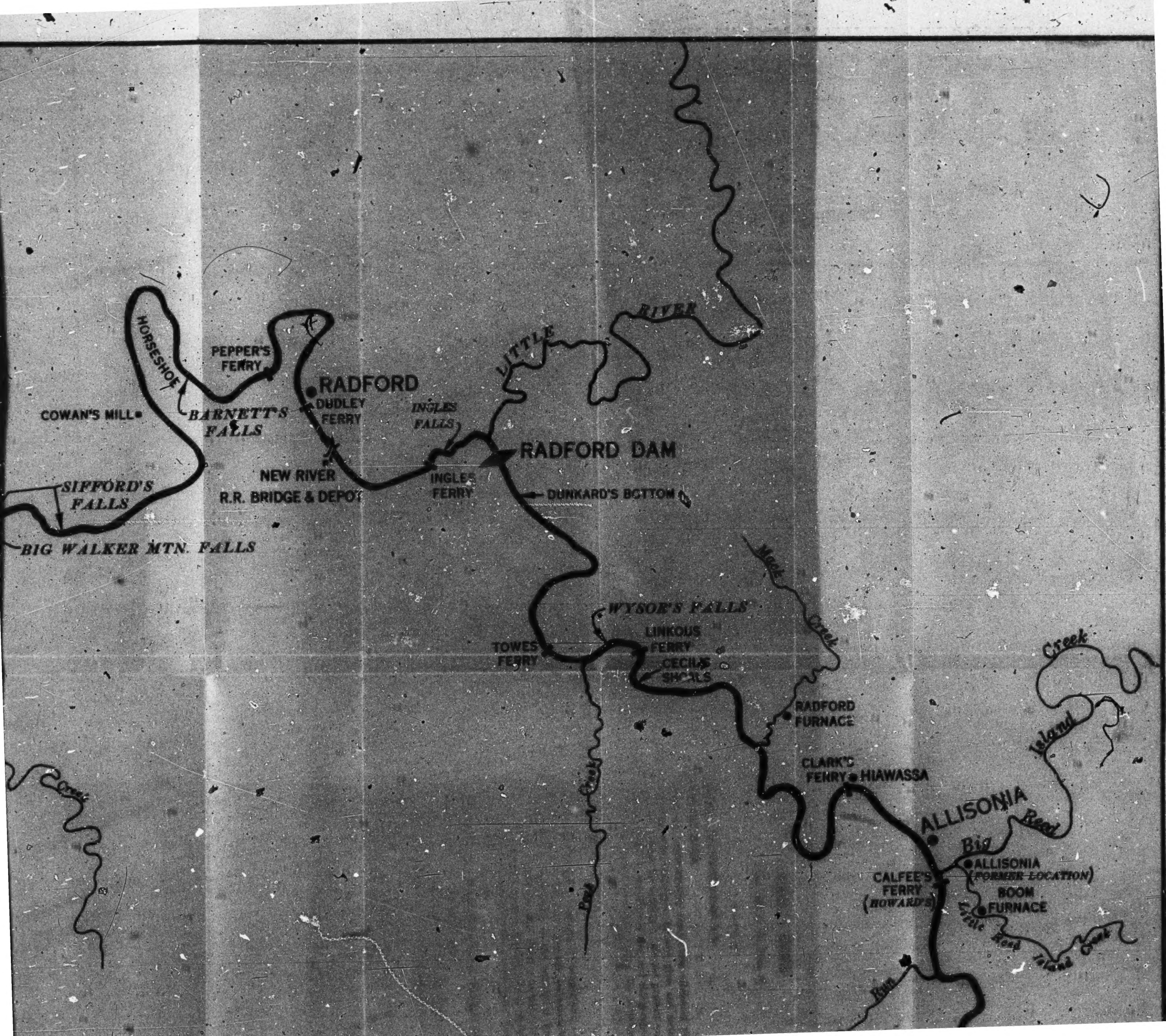
PEMBROKE

SNIDOW'S FALLS

EGGLESTON (SPRINGS)

GOODWIN'S FERRY

COWAN


HORSESHOE
PEPPER'S FERRY
COWAN'S MILL
BARNETT'S FALLS
RADFORD
DUDLEY FERRY
INGLES FALLS
LITTLE
RIVER
SIFFORD'S FALLS
NEW RIVER
R.R. BRIDGE & DEPOT
INGLES FERRY
RADFORD DAM
DUNKARD'S BOTTOM
BIG WALKER MTN. FALLS
WYSOR'S FALLS
TOWES FERRY
LINKOUS FERRY
CECIL SHOALS
Meek Creek
RADFORD FURNACE
CLARK'S FERRY
HIAWASSA
Island Creek
ALLISONIA
Big Reed Island Creek
ALLISONIA (FORMER LOCATION)
CALFEE'S FERRY (HOWARD'S)
BOOM FURNACE
Little Reed Island Creek
Creek
Reed Island Creek
Run

Creek

McDANIEL'S FALLS

WILEY'S SHOALS

PETER MOUNTAIN FALLS

NARROWS

LUNCH

GLENLYN

N

NEW

CRUMP'S BOTTOM

CRUMP'S BOTTOM P.O.

PROPOSED BLUESTONE DAM

HINTON

BERTHA

MERCER'S SALT WORKS

ROUNDBOTTOM CREEK

WILEY'S FALLS

SHUMATE FALLS (REILLY'S FALLS)

HAINE'S FERRY

TRUE

BULL FALLS

Island Creek

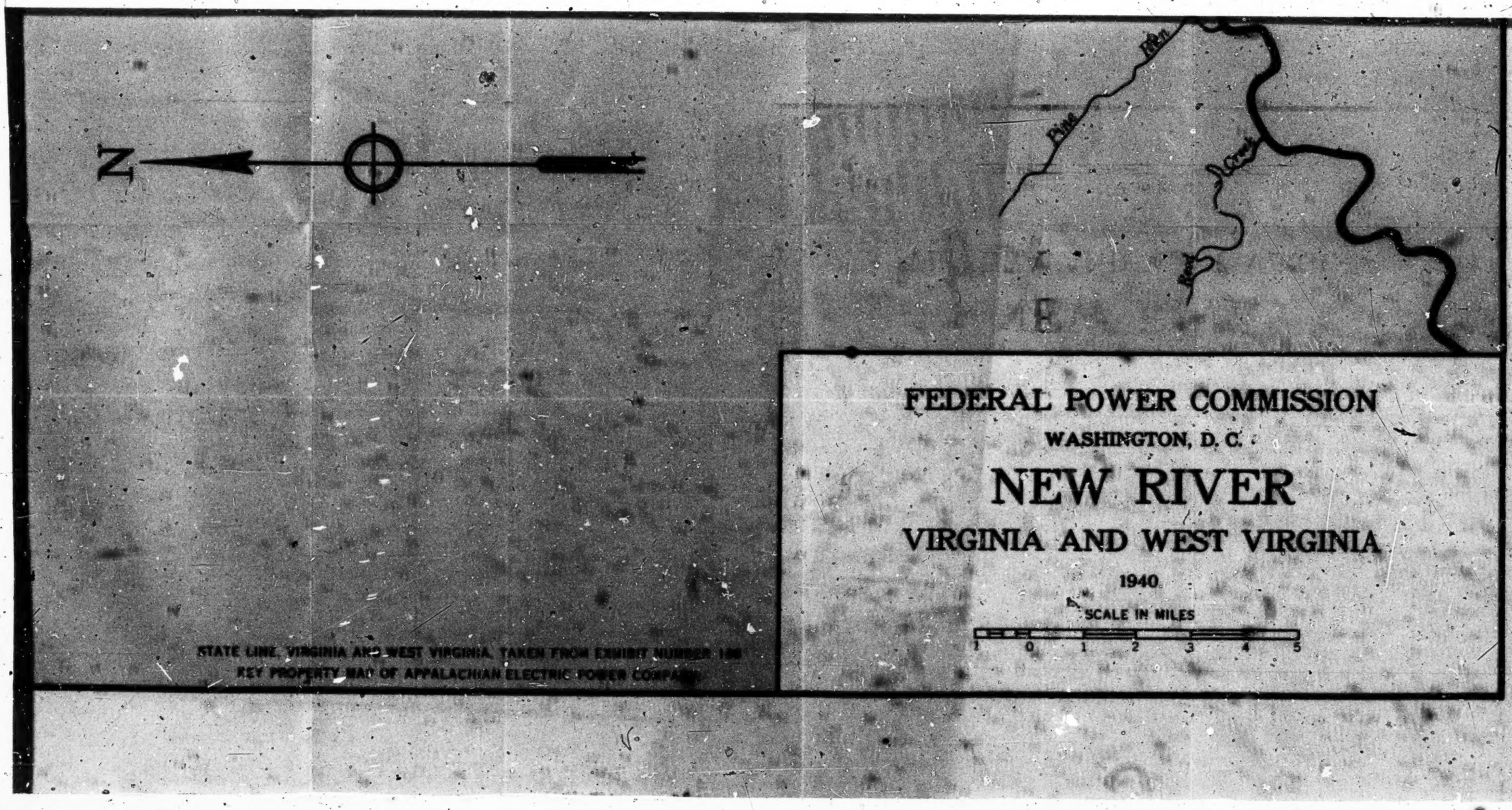
WEST VIRGINIA

VIRGINIA

EAST RIVER

BLUESTONE

RIVER




STATE LINE, VIRGINIA AND WEST VIRGINIA, TAKEN FROM EXHIBIT NUMBER 186
KEY PROPERTY MAP OF APPALACHIAN ELECTRIC POWER COMPANY

FEDERAL POWER COMMISSION

WASHINGTON, D. C.

# NEW RIVER

## VIRGINIA AND WEST VIRGINIA

1940

SCALE IN MILES

1 0 1 2 3 4 5